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BLUE JAY

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Blue Jay, founded in 1942 by Isabel M. Priestly, is a journal of natural history and conservation for Saskatchewan and adjacent regions. It is published quarterly by **Nature Saskatchewan, 206-1860 Lorne Street, Regina, Saskatchewan S4P 2L7.**

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Common names are used for birds, mammals, butterflies, reptiles and amphibians. Bird names follow the Checklist of North American Birds by the American Ornithologists' Union (7th edition, 1998); mammal names, Mammal Species of the World by Wilson and Reeder; butterfly names, The Butterflies of Canada by Layberry *et al*; and names of reptiles and amphibians follow Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico by Committee on Standard English and Scientific Names, Brian I Crother, chair (2001). For other groups, both scientific and common names are included.

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COVERS:

Front - Painted Lady butterflies on garden Liatris (*Liatris spicata*), 22 August 2005, in Sherwood Park, AB - Photograph by Laura Jackson

Back - These festive ducklings are the December issue mystery photo. The question is, for what purpose were they coloured? (Hint: it was not for Christmas or Easter!). The photograph was taken near Kindersley, SK by Alex Dzubin in 1956.

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We have thousands of copies to give away but issues from the first 20 years are in short supply. Because of this, we can put together only a handful of sets complete to the early 1950s when the magazine adopted its current format. (Very few copies of issues of the 8 volumes of the earlier 8 x 11" format exist so these would not be included in the complete sets.) Priority for complete sets goes to institutions. If institutions do not snap them up, then they will go to individuals on a first-come-first-served basis. Tell us what issues you would like and we will send you the issues that we have by the most economical means (i.e. bus if you cannot pick them up yourself) as soon as possible.

IT'S NOW OR NEVER: Back issues not distributed by March 1, 2006 will have to be permanently discarded by Nature Saskatchewan.

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EDITORS MESSAGE

Does *Blue Jay* matter? In a world that inundates us with magazines, newspapers and staggering amounts of digital information, is there still room for *Blue Jay*? We think there is. *Blue Jay* offers a regional perspective, an outlet for sharing information on natural events as well as a permanent record of that information. It creates a forum for expressing appreciation about the natural world in the form of art and poetry and a stimulus for people to record their observations and share these with others.

Blue Jay is the readers' magazine and we encourage you to write letters or send in observations about nature. The natural world is a complex place and each observation is like a piece of a puzzle that adds to the larger picture.

The magazine's value as a repository for observations by local residents can be appreciated by searching through past issues for information on a given topic. Observations of commonplace events 50 to 60 years ago give context and contrasts that help us understand the natural world of today. Like a council of elders, *Blue Jay* preserves wide experience that can inform our understanding and deepen our appreciation of nature.

Observation is the stuff of natural history. Details add value and sharing

them adds more. Many a person has said, 'I saw an interesting thing the other day. I should write it up for *Blue Jay*.' Please do! And keep writing down your observations in scribblers, notebooks or whatever is convenient, so that the details of time, place and observation can one day find their place in the puzzle.

We also welcome input from readers. Tell us what you like and don't like about the magazine, and what you would like to see that is not there. Negative, positive, diatribe, accolades - we are interested in hearing it all.

We thank everyone who has sent submissions to *Blue Jay* in the past few years. We also greatly appreciate the time and effort devoted to the magazine by the associate editors and reviewers as well as Al Smith and Robert Johanson who tabulate Christmas count data published in the March issue, Teresa Dolman who prepares the index each December, Bob Nero and Jim Duncan who abstract *Blue Jay* articles for *Recent Ornithological Literature*, George Tosh who scans and prepares many of the images for publication, Nancy Allan who proofreads each issue and Carla Windl at Administration Centre Printing Services who puts each issue together.

- Anna and Ted Leighton, Editors

KENNETH BOWMAN, ALBERTA LEPIDOPTERIST

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Kenneth Bowman was one of the earliest noteworthy collectors and compilers of Lepidoptera in Alberta. From the time of his arrival from England in 1904 to his death in Edmonton in 1955, he pursued this particular branch of natural history, travelling throughout southern Alberta and into the Rocky Mountains to build up a comprehensive and valuable collection of most of the species of butterflies and moths in the province. Acquired by the University of Alberta after his death, it forms a significant part of the Research Collection in the E. H. Strickland Entomological Museum. Although his collection has been documented and studied, not much is known in natural history circles about his character, background and the origin of his interest in collecting. It is the purpose of this article to supply some of the missing information.

Kenneth's lifelong devotion to natural history had a provenance that went back two generations. His grandfather, Robert Benson Bowman (1808-1882), was an early botanist in the northeast of England. Born in Richmond, North Yorkshire, Robert had become interested in botany as a youth and helped form a group of amateur collectors known as the Richmond Botanical Society. They roamed the countryside gathering and drying specimens, sometimes creating

elaborate albums of pressed plants adorned with quotations from the poets. When Robert moved to Newcastle in about 1824, he continued collecting in his new environs and corresponded and exchanged specimens with some of the leading botanists of the day, including Sir William Jackson Hooker, Hewett Cottrell Watson, George Wailes and Nathaniel Winch.

Robert belonged to the Literary and Philosophical Society of Newcastle upon Tyne and was a founder, along with Albany and John Hancock and other prominent local naturalists, of the Natural History Society of Northumberland, Durham and Newcastle upon Tyne (NHS) in 1829, of which he was a Curator of Botany for many years. The Hancock Museum in Newcastle, the present-day manifestation of the NHS, holds his herbarium of mostly British plants. It was the age of natural history as a gentlemanly pursuit and of science as a profession, particularly in the industrial northeast of England. Robert was a chemical manufacturer, as was his father-in-law, the distinguished metallurgical chemist Hugh Lee Pattinson (1796-1858), who had a deep interest in many branches of science, including astronomy. Robert's three sons were members of the NHS. Henry (1843-1933), the eldest son and

Kenneth Bowman's father, was an Honorary Curator of Mineralogy from 1864-1874, a Committee Member and a Secretary of the Society.

Henry married Isabella Catherine (Kate) Bell in Durham in 1867. The fifth of their seven children, Kenneth Bowman was born on 6 March 1875 in Barmston, Durham. The family moved fairly often. At the 1881 census, they were living with Kate's father, Thomas Bell, in Crosby Court, a large manor house in Thornton-le-Beans, North Yorkshire. Thomas, by profession an iron master and industrial chemist, was a keen amateur lepidopterist who collected in Britain and Europe. It was during his time at Crosby Court that Kenneth first became aware of the collecting of butterflies and moths as an engaging pursuit. Among the papers of his wife, Eva Bowman, is this note: "Ken Bowman's grandfather had a very large collection of European butterflies and KB from the age of six years often accompanied him to the New Forest and other locations in England, on collecting trips."⁴

By 1884, the family had moved to Clapham in South London and from 1889 to 1893 Kenneth studied at Dulwich College, the prestigious private school for boys. "All during this time," his sister wrote, "he was going on with his collection, going to Epping to see Grandfather's methods, and later to the New Forest, then spending week-ends in various parts of the country where rare specimens might be found."³ Thomas Bell died in 1894 and Kenneth inherited his collection, which, together with his own, made a valuable one.

He began working in 1897 as a clerk to Blyth and Teesdale on the London Stock Exchange, becoming a Member

in March 1900 and being authorised to transact business on the floor in 1901.¹¹ After his mother's death in July 1903, however, he rather surprisingly cut short his career on the Exchange and sailed for Canada on 10 May 1904 aboard the *Lake Manitoba*, designated as a 'Farmer.' He was twenty-nine years old.⁸

The destination of the liner was Quebec and Kenneth disembarked there on 21 May 1904. Proceeding westward, he arrived in southern Alberta in the same year, where he worked for a time on a friend's ranch at Pine Lake near Red Deer. This coincides with the earliest part of his collection of Canadian Lepidoptera, which is from the Blackfolds-Red Deer area. By 1906, he was living in Edmonton and in the next year he began working as a crew member on the construction of the Grand Trunk Pacific Railway bridge at Clover Bar and took what amounts to a photo diary of the stages of its construction. When the foreman found out that he could do bookkeeping, he was given the job of running the office and put in charge of the huge payroll.

By 1909, Kenneth was working for the Merchants Bank in Edmonton. He married Florence Vera Bleasdel (Vera), the second daughter of William H. Bleasdel of Toronto, on 6 June 1912. It is not known where he met her, but they most probably married in Ontario. The marriage produced no children and was burdened by Vera's rapid descent into lifelong invalidism. Kenneth began a new profession as Chartered Accountant on 1 August 1914, when he was awarded his certificate by the Institute of Chartered Accountants of Alberta. In these and subsequent years, he managed to make ends meet but never became comfortable financially

because, aside from the economic deprivations attending the two World Wars and the Depression, what he did make was largely spent on collecting butterflies and moths and, his other love, stamps of the world with a particular concentration on North America and the United Kingdom. His second wife was to write: "To him, money was merely a means of exchange."⁴

His annotated checklist of more than 900 Macrolepidoptera of the province was published in 1919. It was a compilation of his own records and those of other collectors, and was founded on the checklist of Frederic Hova Wolley-Dod (1871-1919), the first comprehensive published checklist of Alberta Lepidoptera.² Edgar Harold Strickland (1889-1962), the first entomologist at the University of Alberta,² commented on his subsequent activities: "He now turned his attention increasingly to collecting the almost completely neglected Microlepidoptera of this part of Canada [...] Though he was fortunate, in his early years of collecting in this group, in obtaining taxonomic assistance in certain families from Dr. J. H. McDunnough in Ottawa, he was seriously handicapped in later years by being unable to find any specialists on this continent who were willing or able to classify the bulk of his steadily increasing Microlepidoptera."¹³ As his collection grew, he published a series of notes in *The Canadian Entomologist* over the next twenty-five years to correct and update the 1919 list. (See the bibliography at the end of this article.)

Kenneth had not forgotten his own, and Thomas Bell's, collection of butterflies in England but it was no longer of use to him. In early 1924, he wrote to his father in Kent, asking him

to give the collection to a nearby museum. According to Folkestone Museum records, the butterflies were predominantly from Spain and Switzerland and mostly unlabelled. The years took a toll on the collection, however, and it was heavily weeded before World War II due to infestation, at least 3000 specimens being destroyed. In 1977, the collection, then in two cabinets, was reorganised into one twenty-drawer cabinet and this can still be seen at the museum today.⁷

Vera Bowman died in Edmonton on 3 March 1926 after her long illness. On 15 June 1927, Kenneth married the much younger Eva Grizelda Bowman Fisher (1896-1994), third daughter of retired dental surgeon, William Bowman Fisher of Greenock, Scotland. She had emigrated to Canada in May 1919 to help her eldest sister, Alison, wife of James Boyd McBride, the Alberta Provincial Court justice. The sisters had known the Bowmans well and, as part of the same social circle of 'expats,' had played golf, gone to parties and attended dances together. Eva was, in fact, engaged to another man, but Kenneth, a respectable one year after the death of his first wife, managed to persuade her to break the engagement and marry him instead. Eva used to relate how, in the early years of their marriage, when Kenneth wished to drive to the Rockies in search of butterflies, she would instantly agree and they would leave without further ado. She felt this was important, as Kenneth had been tied down for so many years with an invalid wife.

Their only child, Isobel Beatrice, was born on 30 March 1929. Kenneth was now fifty-five years old and his wife, thirty-two. They were living at 10240 Wadhurst Road, which had a sizeable back garden and a ravine in the front,

and the household always included cats or Welsh Corgis, sometimes both, because of Kenneth's great fondness for animals. Still pursuing his career as a chartered accountant and auditor, he worked for McDougall Court Limited, the Blue Willow Tea company, a mine in Nordegg, the Scouts and Guides of Edmonton and other firms around the province. Travelling gave him the opportunity to add to his collection, which ultimately comprised many species not only from the Edmonton area but also from Nordegg, Pocahontas, Jasper, Blairmore and other areas. He made frequent forays to the 'muskeg' at Stony Plain and even collected in his own garden. His daughter recalls, "The butterfly net was at hand summer-long and tea could be interrupted by a sudden sighting, a quick stalking and a swooping put-away for setting later. The 'killing bottle' was there also, but out of my early awareness, I think. Later it fascinated me and was a very quick death to all who entered there."⁶ The net he used was a folding model, which he carried in his jacket pocket at all times. Although he was six feet one inch tall, Kenneth had small hands and feet (a size eight shoe) and his small hands made him particularly dexterous at setting tiny specimens. It was utterly taboo to disturb him while he was working on his collection in the lofty attic chamber of the house.

Isobel remembers Kenneth describing how some tough miners in Nordegg had expressed scorn behind his back for the 'sissy' occupation of a man hunting butterflies and using a big net to do so. "When he was told this, he returned to the mine office the following day and put it about, very casually in conversation, that he'd got \$10 for the butterfly of the day before! No one said much but among the miners word got

around fairly fast. He wasn't 'crazy.' He was netting money and knew which ones to catch and their value! This was depression time. Everyone who was working was poorly paid, but even so, lucky just to have a job. Ken's story brought great respect, even interest, and no one knew he'd made it all up."⁶ He may have made up that story but it was true that butterflies had commercial value.

Although religion was important to Eva, it did not play a large part in Kenneth's life. Rather, a feeling of curiosity, awe and respect for nature appears to have satisfied many of his needs. In keeping with the Bowman family devotion to natural history, he taught his daughter from childhood to be keenly aware of what lay around her. To encourage her to learn about gardening, he dug a small garden for her sole use and to include her in his passion for butterfly collecting, he gave her a cork-lined box, pins, her own net, supervised access to the 'killing jar' and instruction in technique. Life in all its forms was to be explored and enjoyed, not feared or hated. Snakes and bats were admired for their beauty, the family pets studied for their behavioural traits, electrical storms watched for their spectacular display and the *National Geographic* pored over and discussed. Death was faced without compromise. When a pet died, it was wept over and then buried. Isobel early recognised this 'dead-stop' to life. What existed beyond it was only a feeling of missing and memories for sharing.⁶

Although known to have a quick and rather dramatic temper on occasion, Kenneth seldom got angry with his daughter. One exception was "my early opening of a few of his air-tight butterfly cases. I was under six because I can only just remember the big cases being

as easy as pulling out a book. Wings flew off apparently, and coloured dust — a lot of damage to a labour of years, this part of his collection. After this the cases all had two strings of wire along the shelf-fronts. I got a spanking for this.”⁶ Even when young, Isobel recognised her father was different from other fathers: he was twenty years older than them — and his wife. He was stable and confident as befits an older man but also took delight in childish and exuberant things: fireworks, early London music hall songs, games, puzzles, nonsense rhymes, ridiculous stories and practical jokes.

Kenneth usually worked in the mornings and early afternoons, returning with various companies’ audit books as his ‘homework’ but during the Second World War, work thinned out. The family sold the car and Kenneth

either walked to town and back in all seasons or cycled — singing and whistling all the way, to the surprise of pedestrians — a fifty-two-block round trip. He was about seventy by then.

His daughter Isobel married Roy Hendra, of another old Edmonton family, on 23 June 1951. This was the same year in which Kenneth brought out *An Annotated List of the Lepidoptera of Alberta*, an updated and much expanded version of his 1919 checklist. “[It] was among the most comprehensive regional checklists of the time. It contained 140 butterfly species, 857 macromoth species, and 638 micromoth species.”⁹

Kenneth lived for another four years after that and was able to enjoy two years of my, his first granddaughter’s, life. He was to have three grandchildren



Kenneth and Eva Bowman in Edmonton, ca 1950.

but only I benefited, however briefly, from his kindness and delight in all life. His health had finally started to deteriorate and perhaps this was the reason he was not a charter member of the Entomological Society of Alberta (ESAB), founded in Lethbridge in November 1952. He was, however, a member of the society in 1953 and 1954. Greg Pohl of the Northern Forestry Centre and long-time ESAB member writes, "The first annual meeting of the ESAB was held in Calgary, October 2-3, 1953. Mr. Bowman was there, and he helped lead a discussion entitled 'The Future Role of Entomology in Alberta', where the society shaped its purpose and direction." (Greg Pohl, pers. comm., 2005)

He continued, despite his poor health, to correspond with Dr. McDunnough and staff of the Canadian National Collection of Insects in Ottawa. In December 1954, having just recovered from an illness, he was preparing to send a particular set of specimens to Ottawa for identification. He wrote, "I don't want to send everything I have as my collecting days are over & I shall not be able to replace anything [...] My series are not long, but are the pick of 40 years collecting so you will realize I don't want to risk the whole lot."⁵ He sent more specimens in April 1955 but that may have been the last shipment. His illness returned. A last-chance operation failed to save him and he died on 25 September 1955, aged 80. He is buried in the Edmonton Cemetery next to his first wife, and the inscription on the stone simply reads "KENNETH BOWMAN 1875 - 1955." The ESAB printed an obituary that concluded, "For over fifty years his spare time was devoted to painstaking collection and to the meticulous care which he gave his

specimens. If the Society can raise one amateur to emulate him in a generation it will serve its purpose well."¹ The fifty years mentioned were the ones spent collecting in Canada; his earlier activities in the U.K. were not known.

Later in 1955, Eva Bowman sold his collection of some 13,000 specimens to the University of Alberta. According to a recent paper, "One of the most active parts of the Strickland Museum is now the Bowman Collection of moths and butterflies, reflecting the recent arrival of [Dr. Felix Sperling] [...] The Bowman Collection is now one of the focal points of the Alberta Lepidopterists' Guild, a group of several dozen enthusiasts from all walks of life who have been the driving force behind the development of the entomology virtual museum."¹² Previous to this, it had been "used extensively by C. D. Bird et al. (1995) for the preparation of *Alberta Butterflies*, by researchers at the Canadian Forest Service in Edmonton, and also occasionally by other taxonomists." (Greg Pohl, pers. comm., 2005)

To clarify the nature of Kenneth Bowman's collection from the viewpoint of twenty-first century entomologists, Greg Pohl states: "The entire Lepidoptera fauna of Alberta is thought to contain 2500 to 3000 species. In an update to Bowman's 1951 checklist (Pohl et al, in preparation), approximately 2200 species were known as of 2005. Some of the records since Bowman's time have come from specialized habitats. Modern roads, and lights and generators, have aided considerably. Many of the new records represent species that have only been recognized and described since Bowman's time. Recent examination of specimens in Bowman's collection has revealed that he had collected many of these unnamed species as

well but obviously had filed them under other names.”(Greg Pohl, pers. comm., 2005)

In December 2004, his collection was featured as one of the contributions of the University of Alberta Museums to “celebrate inspiration and the City of Edmonton Centennial.”¹⁰ Posters of him in his later years, with butterflies superimposed, were seen around the city, a fine tribute to his work. Like his grandfather, the botanist Robert Benson Bowman, Kenneth worked with local natural history groups, corresponded and exchanged specimens with specialists, collected tirelessly while maintaining a career in a wholly unrelated field, and made a significant contribution to the knowledge of local natural history. He had an extraordinarily long collecting career of over seventy years, aided by excellent physical fitness and the indulgence of his family. It is no exaggeration to say that he devoted his life to butterflies and moths.

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SASKATCHEWAN WATERFOWL BANDERS TO 1954*

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This article completes the series on early Saskatchewan bird banders, from 1923 until 1954. Localities are within Saskatchewan unless stated otherwise.

Ducks Unlimited banders

Between 1939 and 1954, people in Saskatchewan who banded ducks under permit #00077 of Ducks Unlimited (DU) were **W.G. Leitch** (1287 ducks, mainly at Caron Potholes, Old Wives Lake, and Last Mountain Lake); **Sam White** (100 at Tenaille Lake); **T.E. Randall** (293 at Kazan Lake); **Dave Larson**, **Lyle Ehman** and **Lloyd Sutton** (153 at Caron Potholes); **A.J. Matheson** (3136 at Neilburg and 963 at Waterhen Marsh); **R.D.C. Anderson** (1571 at Scentgrass Lake); and **J.H. Wilson** (4414 at Leech Lake south of Yorkton and 1762 at Last Mountain Lake). In addition, as detailed in previous accounts, Fred Bard, Hartley Fredeen, Tom Harper and I did most or all of our waterfowl banding under the auspices of DU. Wilson was the only waterfowl bander of this period to have obtained a recovery of a non-game bird, a Marbled Godwit, banded at Leech Lake south of Yorkton on 3 August 1944 and picked up dead at Oxnard, California, four months later.

B.W. Cartwright published two editions of a booklet listing all waterfowl banding by Ducks Unlimited through 1950, and then updated to 1954.^{1,2} It included a map in which green dots depicted recoveries of ducks

originating in Saskatchewan; black dots, Alberta; and red dots, Manitoba. A photo of Mrs. I. M. Priestly, my mentor and the founder of *Blue Jay*, was on the cover of the 1952 version. The 1952 version had maps for the Mallard, Northern Pintail, Blue-winged Teal and Lesser Scaup, but the 1956 version omitted the last two species.

Visitors to Saskatchewan

Roland Williams (permit #03281) came briefly from Wisconsin to canoe the Churchill River in 1926, where he banded one Mallard at Dipper Rapids and another at Knee Lake; the latter bird was shot near Ile-à-la-Crosse. Another visitor was **Burt Gresham** (permit #00036) of Winnipeg, who banded an unknown number of American White Pelicans at Quill Lakes in 1939. One pelican was found dead locally, one was shot in Illinois and one was injured in Oklahoma. **Harrison F. Lewis** (permit #00039), chief of the Dominion Wildlife Service, Ottawa, banded 12 Mallards at Prince Albert in 1948. One Mallard was shot locally and one in Minnesota. **W. Earl Godfrey** (permit #00085) of the National Museum in Ottawa, banded 14 Ring-billed Gulls and 3 Common Terns at Maple Creek in 1956. **D.G. Colls** (permit #00579), a federal wildlife bird officer from Winnipeg, banded seven Canada Geese at Duck Mountain Park in 1951, five of which were shot at Oak Lake, Manitoba on 2 and 3 November that year.

United States government banders

In the 1930s, four Americans were sent by government agencies to Saskatchewan to study the massive drop in duck populations. Two of them, **Webb H. Ransom** (permit #04241) and **George B. Saunders** (permit #03305), were given the new position of “flyway biologist” in 1936. Each banded a few ducks incidentally to his survey duties. Ransom banded 18 individuals of five duck species, 1934-1936, and two of his Mallards were shot locally. Saunders banded 31 individuals of four species in 1938. His recoveries were two Northern Pintails shot locally, and one Mallard shot in Utah. **Edward T. Carter** (permit #00342) came from Illinois in 1937 as the first of a group later known as United States Game Management Agents (USGMAs). He banded 16 pintails in five localities in 1937; four were shot in Saskatchewan and one in Montana. **Robert C. McClanahan** (permit #00500) of the U.S. Fish and Wildlife Service in Washington, D.C., visited Saskatchewan at least four times. In 1940, he banded three Ferruginous Hawk nestlings near Beverly and three Double-crested Cormorants at Last Mountain Lake. In 1941, he banded 132 Ring-billed Gulls at Imperial Beach, Last Mountain Lake, and had one recovery of a gull that died of a “miscellaneous cause” at 11 years of age, then an apparent longevity record. Another Ring-billed Gull was found dead at Dolores Hidalgo, Guanajuato, Mexico. In 1947 and 1948, McClanahan banded 5,449 waterfowl of 14 species in Saskatchewan, from which he had 569 recoveries.

After the Second World War, a number of United States Game Management Agents came into Saskatchewan to carry out extensive studies on waterfowl populations,

breeding conditions, food habits and nesting success. One component of their assignment was to band ducks. The first of these, **Floyd Thompson** (permit #06503), from Utah, pioneered “drive-banding” of moulting ducks, whereby a group of men waded slowly through the marsh, driving flightless ducks into a funnel and thence into an enclosure, while a propeller-driven ‘air boat’ went back and forth behind the men to keep the ducks from breaking backwards into more open water.⁸

Each agent came with one or two state biologists or technicians, and often worked with Canadian Wildlife Service and Ducks Unlimited personnel in conducting duck drives. One such drive, on White Heron Lake immediately southeast of Kerrobert in 1952, netted an incredible number of moulting flightless adult males: 2,025 pintails, 1,393 Green-winged Teal, 447 Blue-winged Teal and 112 Mallards. Between 1950 and 1954, Thompson banded 24,623 waterfowl of 15 species (including 9,557 Northern Pintails), with 956 recoveries. The 1950 banding crew, consisting of USGMAs Floyd Thompson, R. Lawhorn and C. Mueller, assisted by E. Paynter and W. Brownlee from Saskatchewan Game Branch, concentrated on Old Wives and Eyebrow Lakes. William Elder of the University of Missouri used his fluoroscopic equipment to determine the incidence of lead in waterfowl tissues.³ Banding was somewhat less successful in 1951, in part because “swimmer’s itch had a serious effect on the personnel and their work.”⁴

John J. Lynch (permit #06706), from Louisiana, visited Eyebrow Lake near Tugaskie in 1949. He banded 3,733 waterfowl of 10 species, from which there were 428 recoveries. About three-quarters of the ducks were banded at

Eye-brow Lake; one drive yielded 1,630 ducks.¹⁰ **Jerome J. Stoudt** (permit #06709), from South Dakota, began his long-term Saskatchewan banding studies of waterfowl near Redvers in 1952.⁹ By 1954, he had banded 498 ducks of eight species, with 116 recoveries.

A whole string of waterfowl banders followed in quick succession, beginning with **R.J. Buller** (permit #07294) from New Mexico and **R.C. Tice** (permit #07653) from Ohio in 1954, **Don W. Krieble** (permit #07714) from Texas in 1954-55, and **Charles R. Hayes** (permit #06806) from Colorado in 1954-56. Between them they banded 5,068 ducks, from which there were 510 recoveries. In 1954, **Seth H. Low** (permit #04071), chief of the banding office in Patuxent, Maryland, visited the new USGMAs in the prairie provinces and one private bander. He brought me two mist nets that he had obtained from Japan and demonstrated their use by catching a Gray Catbird and a Yellow Warbler near Yorkton. This was the first time mist nets had been used in our province. During his tour, Low caught a brood of seven Northern Pintails at Big Muddy, and from these had an impressive five recoveries, one each in South Dakota, Nebraska, Louisiana, Texas, and Colombia.

Prince Albert National Park

Banding of Mallards was done at Hanging Heart Lakes, Prince Albert National Park, under two superintendents, **B.I.M. Strong** (permit #00583) (1951, 25 banded) and **J.D.B. MacFarlane** (permit #00733) (1954, 27 banded with 8 recoveries). Banding at Hanging Heart Lakes continued until 1958 under **A.M. Pearson** (permit #00852).

Canadian Wildlife Service

Bernie Gollop (permit #00592) was the first major Saskatchewan waterfowl bander with the Canadian Wildlife Service. In 1952, Gollop caught 379 young in fish-landing nets.⁵ In 1953, he banded 941 flightless young Mallards and Northern Pintails; until mid-July he caught them in the water or drove them onto land but thereafter a soft-mouth Golden Labrador Retriever owned by M.W. Morgan of Kindersley caught about 800 ducks in 20 days.⁶ Altogether, between 1952 and 1954, Gollop banded 4,284 waterfowl of 11 species, with 529 recoveries. One of Bernie's first student assistants was **Richard W. Fyfe** (under Gollop's permit number), who had one local recovery each from a single Marbled Godwit and from one set of nestlings of Black-billed Magpies banded in 1954.

Gollop published the results of retriever use to catch ducks, mainly Mallards, reaching a total of 1,818 in his first three years. An average two-man dog crew working parts of 18 days made 72 trips into sloughs and caught 349 Mallards. Gollop concluded that use of retrievers offered "the most practical technique ... to catch an adequate, well-distributed sample of mallards (and pintails)."⁷ This was pioneering work.

Acknowledgments: I thank Alex Dzubin for helpful comments and Henry Milt Reeves for information on waterfowl banders from the United States.

*Number 24 in a series of articles on Saskatchewan bird banders.

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Wire trap used by the U. S. Fish and Wildlife Service to corral ducks for banding, Alberta 1961.

(J. B. Gollop collection)

VASCULAR PLANT SURVEY OF MEADOW LAKE PROVINCIAL PARK, SK

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5E2

Meadow Lake Provincial Park (MLPP) is located in west-central Saskatchewan, approximately 45km northwest of the town of Meadow Lake, on the boundary of the Mid-Boreal Upland and the Boreal Transition Ecoregions. The park is one of the largest protected areas in Saskatchewan and covers approximately 1600 km² of land. The park encompasses a mosaic of ecosystems including forest, wetland, aquatic, and disturbed habitats.¹ The forested ecosystems are divided into several subcategories based on the dominant tree species and associated understory.¹ The wetland ecosystems include bogs, fens, swamps, and marshes, which are distributed throughout the park. Lakes, rivers and streams comprise the aquatic category. Naturally occurring fires and human activities cause disturbance within park ecosystems. MLPP is a popular tourist destination in Saskatchewan. As a consequence, campgrounds, roadsides and hiking trails have played a role in the structure and composition of MLPP flora and have generated additional pressure on the park's natural resources.

Basic ecological information regarding MLPP has been available since 1979, but this is the first detailed list of the vascular flora. Because of the

loss of natural habitats in Canada and the need to maintain local and regional diversity as well as preserve existing populations of threatened species, it is important to periodically conduct floristic inventories and to monitor changes in flora. Floristic inventories provide valuable information that can be used to target areas rich in biodiversity. Here we present a list of the vascular plants in MLPP based on a floristic survey designed to investigate species diversity and identify taxonomically rich areas. The survey was not meant to provide a complete list of the flora of Meadow Lake Provincial Park. Plants collected previously in MLPP and housed in the herbarium at the University of Saskatchewan (SASK) have not been included in this list due to the time consuming nature of searching the herbarium for specimens of these plants.

This floristic survey of MLPP was conducted from early June to late August in 2001 at 140 sites located throughout the park. Survey locations were chosen by applying a 1cm² grid to a 1:250 000 scale map of Meadow Lake Provincial Park. The grid was numbered from left to right and from top to bottom and the 140 locations were selected randomly using a random number table. Geographic

Positioning System (GPS) coordinates of known points on the map were used to determine the coordinates of each site. Some sites were inaccessible due to large water bodies or lack of trail or road. Where water bodies prevented access, a replacement site was situated as close as possible to the original randomly-chosen site. Where roads or trails were the limiting factor, a new site was chosen using the random number table. It should be noted that the survey area excluded the Bighead Indian Reserve and the Waterhen Indian Reserve because special permission is required to conduct research on reserve land. As a result, these areas have yet to be surveyed.

At each site, a temporary 10m x 10m quadrat was set up. Species composition was determined within each quadrat. Plants in flower were identified and whenever possible, vegetative material was used to identify the remaining plants. Unknown plants were taken to the herbarium for identification. Plant materials were collected, pressed, and preserved following standard protocols and voucher specimens were deposited in the W. P. Fraser Herbarium (SASK) at the University of Saskatchewan. Nomenclature for the majority of species listed was initially based on the Flora of Alberta, 2nd Edition, but has been updated to current nomenclature in Table 1.³ Previously used names are provided in square brackets in Table 1 for comparative purposes.

A previous floristic study by Blood and Anweiler (1979) reported that MLPP flora consisted of 188 vascular plant species, including 55 families and 137 genera. Our study shows a more diverse flora than previously reported: 271 species in 62 families and 173

genera (Table 1). MLPP flora represents approximately 17% of the provincial flora, which is estimated to be approximately 1,625 species (V. Harms, pers. comm.). Of the 271 species, 72 taxa are newly published records for MLPP flora, though several of these species have likely been previously collected in MLPP. Our data indicate that only eight species are listed as being at risk by the Saskatchewan Conservation Data Center.⁴ These species are Tall Larkspur (*Delphinium glaucum*), Rough Daisy Fleabane (*Erigeron strigosus*), Tall White Daisy Fleabane (*Trimorpha elata*), Dwarf Thistle (*Cirsium drummondii*), Cyperus-like Sedge (*Carex pseudocyperus*), Sparrow's Egg Lady's-slipper (*Cypripedium passerinum*), Slender Ladies'-tresses (*Spiranthes lacera*), and Leathery Grape Fern (*Botrychium multifidum*) (Table 2).

Twenty-seven of the species previously recorded by Blood and Anweiler were not found in this study.¹ These are indicated by an asterisk in Table 1. Several explanations can be made regarding the presence or absence of species in the area under study. Our sampling method was more efficient in identifying a large number of species in the study area than the previous study. In addition, the previous report dates back 25 years, and some areas of MLPP have changed. It is not unreasonable to assume that some of the previously reported species had restricted or limited distribution or specific soil and nutrient requirements and may have been eliminated from the park. Another important factor regarding the discrepancy in species number lies in fundamental issue of synonymy. Since multiple names can be used for a single biological entity, this affects final estimates in a region or area. In

fact, disagreements in species number are often the result of studies underestimating synonymy rates⁵. Synonymy rates refer both to species cited under different names and to species for which the taxonomy is unclear and which may be considered two species by one authority and one species by another.

Among the 62 plant families recorded in MLPP, the aster (Asteraceae) and rose (Rosaceae) families are the most widely occurring of the dicotyledons, with 34 and 20 representative species respectively. The buttercup (Ranunculaceae), legume (Fabaceae), and willow (Salicaceae) families are the next most commonly encountered families in the park, with 12, 11, and 9 representative species respectively (Table 1). Among the monocotyledons, the dominant plant families include the grasses (Poaceae), with 15 species, and the sedges (Cyperaceae), with 13 species (Table 1).

Overall, plant diversity appears to be evenly distributed throughout MLPP. No particular species-rich areas were identified in this study. As expected, disturbed areas held the highest concentrations of invasive species. Some recent introductions of invasive species include Smooth Brome (*Bromus inermis*), Alfalfa (*Medicago sativa*), White Sweetclover (*Melilotus alba*), Yellow Sweetclover (*Melilotus officinalis*), and Alsike Clover (*Trifolium hybridum*), which are widely distributed as roadside vegetation. Because of their aggressive growth and successful reproductive strategies, these species have the potential to spread and displace native species. Native species at risk must compete for resources, such as nutrients, light, habitat, and pollinators. These

additional pressures may lead to the extirpation of species at risk from MLPP. Fortunately, park management is aimed at maintaining plant diversity and there are policies and practices to address conservation issues in MLPP such as encouraging the use of designated roads and trails, and restrictions against the removal of plants from the park.

Because changes in flora occur over time due to many factors, we suggest periodic floristic surveys be conducted to monitor species at risk for more effective management of plant resources. Additionally, periodic floristic surveys may provide new species records for MLPP as well as provide information on changes in distribution of invasive species. Most importantly, the eight species at risk identified in this survey should be monitored periodically to ensure that their populations are maintained in the wild.

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Table 1. List of Vascular Plants of The Meadow Lake Provincial Park.

| Scientific Name | Common Name |
|--|----------------------------------|
| PTERIDOPHYTES | |
| EQUISETACEAE | |
| <i>Equisetum arvense</i> L. | Common Horsetail |
| <i>E. hyemale</i> L. | Scouring Rush |
| <i>E. scirpoides</i> Michx. | Dwarf Horsetail or Scouring-Rush |
| <i>E. sylvaticum</i> L. | Woodland Horsetail |
| LYCOPODIACEAE | |
| <i>Diphasiastrum complanatum</i> (L.) Holub. [= <i>L. complanatum</i> L.] | Ground Cedar |
| <i>Lycopodium annotinum</i> L. | Stiff Club-moss |
| <i>L. clavatum</i> L. | |
| <i>L. dendroideum</i> Michx. [= <i>L. obscurum</i> L.] | Tree Club-moss |
| OPHIOGLOSSACEAE | |
| <i>Botrychium multifidum</i> (Gmel.) Rupr. ● | Leathery Grape Fern |
| POLYPODIACEAE | |
| <i>Matteuccia struthiopteris</i> (L.) Todaro ■ var. <i>pensylvanica</i> (Willd.) Morton | Ostrich Fern |
| GYMNOSPERMS | |
| PINACEAE | |
| <i>Abies balsamea</i> (L.) Mill. | Balsam Fir |
| <i>Larix laricina</i> (Du Roi) K. Koch | Tamarack |
| <i>Picea glauca</i> (Moench) Voss | White Spruce |
| <i>P. mariana</i> (Mill.) B.S.P. | Black Spruce |
| <i>Pinus banksiana</i> Lamb. | Jack Pine |
| ANGIOSPERMS: DICOTYLEDON | |
| APIACEAE | |
| <i>Cicuta bulbifera</i> L. | Bulb-bearing Water-hemlock |
| <i>C. maculata</i> L. | Water-hemlock |
| <i>Heracleum maximum</i> Barton ■ [= <i>H. lanatum</i> Michx.] | Cow-parsnip |
| <i>Sanicula marilandica</i> L. ■ | Snakeroot |
| <i>Sium suave</i> Walt | Water-parsnip |
| <i>Zizia aptera</i> (A. Gray) Fern. ■ | Heart-leaved Alexanders |
| APOCYNACEAE | |
| <i>Apocynum androsaemifolium</i> L. | Spreading Dogbane |
| ARALIACEAE | |
| <i>Aralia nudicaulis</i> L. | Wild Sarsaparilla |

ASTERACEAE

| | |
|--|----------------------------|
| <i>Achillea millefolium</i> L. | Yarrow |
| <i>A. sibirica</i> Ledeb. | Many-flowered Yarrow |
| <i>Antennaria neglecta</i> Greene | Field or Prairie Pussytoes |
| <i>A. parviflora</i> Nutt. * | Small-leaved Pussytoes |
| <i>Arnica chamissonis</i> Less. ■ | Leafy Arnica |
| <i>A. fulgens</i> Pursh. * | Shining Arnica |
| <i>Artemisia campestris</i> L. | Plains Wormwood |
| <i>Bidens cernua</i> L. | Smooth Beggarticks |
| <i>Cirsium arvense</i> (L.) Scop. | Canada Thistle |
| <i>C. drummondii</i> Torr. Gray ■● | Dwarf Thistle |
| <i>Crepis tectorum</i> L. | Narrow-leaved Hawk's-beard |
| <i>Erigeron glabellus</i> Nutt. | Smooth Fleabane |
| <i>E. philadelphicus</i> L. ■ | Philadelphia Fleabane |
| <i>E. strigosus</i> Muhl. ■● | Rough Daisy Fleabane |
| <i>Gaillardia aristata</i> Pursh ■ | Great-flowered Gaillardia |
| <i>Helianthus nuttallii</i> T. & G. * | Nuttall's Sunflower |
| <i>Hieracium umbellate</i> L. ■ | Canada Hawkweed |
| <i>Liatris ligulistylis</i> (A. Nels.) K. Schum. ■ | Meadow Blazingstar |
| <i>Matricaria discoidea</i> DC. | Pineappleweed |
| [= <i>M. matricarioides</i> (Less.) Porter] | |
| <i>Petasites palmatus</i> (Ait.) A. Gray | Palmate-leaved Colt's-foot |
| <i>P. sagittatus</i> (Pursh) A. Gray | Arrow-leaved Colt's-foot |
| <i>Senecio congestus</i> (R.Br.) DC. ■ | Marsh Ragwort |
| <i>S. pauperculus</i> Michx. | Balsam Groundsel |
| <i>Solidago canadensis</i> L. [s.lat.] | Canada Goldenrod |
| <i>S. missourensis</i> Nutt. | Low Goldenrod |
| <i>S. spathulata</i> DC. * | Mountain Goldenrod |
| <i>Sonchus arvensis</i> L. | Perennial Sow-thistle |
| <i>Symphyotrichum ciliolatum</i> (Lindl.) A.&D.Löve | |
| [= <i>Aster ciliolatus</i> Lindl.] | Lindley's Aster |
| <i>S. laeve</i> (L.) A.&D.Löve var. <i>geyeri</i> (Gray) | Nesom |
| [= <i>A. laevis</i> L.] | Smooth Aster |
| <i>S. puniceum</i> (L.) A.&D.Löve. ■ | Purple-stemmed Aster |
| [= <i>A. puniceus</i> L.] | |
| <i>Tanacetum vulgare</i> L. ■ | Tansy |
| <i>Taraxacum officinale</i> Weber | Dandelion |
| <i>Tragopogon pratensis</i> L. ■ | Goat's-beard |
| <i>Trimorpha elata</i> (Hook.) Nesom* ● | Tall White Daisy Fleabane |
| [= <i>Erigeron elatus</i> (Hook.) Greene] | |

BETULACEAE

| | |
|---|-----------------|
| <i>Alnus viridis</i> (Vill.) Lam. & DC. ssp. <i>crispa</i> (Ait.) Turrill | |
| [= <i>A. crispa</i> (Ait.) Pursh] | Green Alder |
| <i>A. incana</i> (L.) Moench spp. <i>tenuifolia</i> (Nutt.) Breit. | |
| [= <i>A. rugosa</i> (Du Roi) Spreng.] | River Alder |
| <i>B. pumila</i> L. var. <i>glandulifera</i> Reg | Bog Birch |
| <i>B. papyrifera</i> Marsh. | White Birch |
| <i>Corylus cornuta</i> Marsh. | Beaked Hazelnut |

BORAGINACEAE

Mertensia paniculata (Ait.) G. Don

Tall Lungwort

BRASSICACEAE

Arabis divicarpa A. Nels.*

Arabis divicarpa A. Nels.*

A. lyrata L.

Capsella bursa-pastoris (L.) Medic ■

Descurainia sophia (L.) Webb ■

Erysimum cheiranthoides L. ■

Lepidium densiflorum Schrad ■

Rorippa palustris (L.) Besser ■

Thlaspi arvense L. ■

Purple Rock Cress

Purple Rock Cress

Lyre-leaved Rock Cress

Shepherd's-purse

Flixweed

Wormseed Mustard

Common Pepper-grass

Yellow Cress

Stinkweed

CAMPANULACEAE

Campanula rotundifolia L.

Harebell

CAPRIFOLIACEAE

Linnaea borealis L.

Lonicera dioica L.

L. involucrata (Richards.) Banks

Symphoricarpos albus (L.) Blake

S. occidentalis Hook.

Viburnum edule (Michx.) Raf.

V. opulus L. var. *americanum* Ait.

[= *V. trilobum* Marsh.]

Twinflower

Twining Honeysuckle

Involucrate Honeysuckle

Snowberry

Western Snowberry

Low Bush-cranberry

High Bush-cranberry

CARYOPHYLLACEAE

Minuartia dawsonensis (Britt.) House*

[= *Arenaria dawsoniensis* Brill.*]

Moehringia lateriflora (L.) Fenzl. ■

Stellaria crassifolia Ehrh. ■

S. longifolia Muhl. ■

S. media (L.) Cyrill. ■

Rock Sandwort

Grove Sandwort

Fleshy Stitchwort

Long-leaved Stitchwort

Common Chickweed

CERATOPHYLLACEAE

Ceratophyllum demersum L.*

Coontail

CHENOPODIACEAE

Chenopodium album L.

C. capitatum (L.) Aschers. ■

Lamb's-quarters

Strawberry Blite

CORNACEAE

Cornus canadensis L.

C. sericea L. ssp. *stolonifera* (Michx.) Fosb.

[= *C. stolonifera* Michx.]

Bunchberry

Red-osier Dogwood

DROSERACEAE

Drosera rotundifolia L.

Round-leaved Sundew

ELAEAGNACEAE

Shepherdia canadensis (L.) Nutt.

Canadian Buffaloberry

ERICACEAE

Andromeda polifolia L.

Arctostaphylos uva-ursi (L.) Spreng

Chamaedaphne calyculata (L.) Moench.

Kalmia polifolia Wangenh.*

Ledum groenlandicum Oeder

Vaccinium caespitosum Michx.*

V. myrtilloides Michx.

V. oxycoccus L.*

V. vitis-idaea L.

Bog-rosemary

Bearberry

Leatherleaf

Pale Bog Laurel

Labrador-tea

Dwarf Blueberry

Blueberry

Small Bog or Swamp Cranberry

Dry-ground Cranberry

FABACEAE

Astragalus agrestis Dougl.

Caragana arborescens Lam.*

Hedysarum alpinum L.

ssp. *americanum* (Michx.) Fedtsch.

Lathyrus ochroleucus Hook.

L. venosus Muhl. ■

Medicago sativa L.

Melilotus alba Medic.

M. officinalis (L.) Lam.

Oxytropis deflexa (Pall.) DC.

Trifolium hybridum L.

Vicia americana Muhl.

Purple Milk-Vetch

Siberian Pea Shrub

American Hedysarum

Cream-colored Vetchling

Wild Peavine

Alfalfa

White Sweet-clover

Yellow Sweet-clover

Reflexed Locoweed

Alsike Clover

American Vetch

FUMARIACEAE

Corydalis aurea Willd. ■

C. sempervirens (L.) Pers.

Golden Corydalis

Pink Corydalis

GENTIANACEAE

Gentianella amarella (L.) Borner

Halenia deflexa (Sm.) Griseb.

Northern Gentian

Spurred-Gentian

GERANIACEAE

Geranium bicknellii Britt.

Bicknell's Geranium

GROSSULARIACEAE

Ribes americanum Mill. ■

R. hudsonianum Richards.

R. oxycanthoides L.

R. triste Pall.

Wild Black Currant

Northern or Wild Black Currant

Wild Gooseberry

Wild Red Currant

HALORAGACEAE

Myriophyllum sibiricum Komar.*

[=*M. exalbescens* Fernald]

Water Milfoil

| | |
|--|------------------------------|
| HIPPURIDACEAE | |
| <i>Hippuris vulgaris</i> L. | Mare's-tail |
| HYDROPHYLLACEAE | |
| <i>Phacelia franklinii</i> (R. Br.) A. Gray | Franklin's Scorpionweed |
| LAMIACEAE | |
| <i>Agastache foeniculum</i> (Pursh) Ktze. | Giant-Hyssop |
| <i>Dracocephalum parviflorum</i> Nutt. * | American Dragonhead |
| [= <i>Moldavica parviflora</i> (Nutt.) Britt.] | |
| <i>Galeopsis tetrahit</i> L. ■ | Hemp-nettle |
| <i>Lycopus asper</i> Greene ■ | Western Water-horehound |
| <i>L. uniflorus</i> Michx. ■ | Northern Water-horehound |
| <i>Mentha arvensis</i> L. | Field Mint |
| <i>Scutellaria galericulata</i> L. | Marsh Skullcap |
| <i>Stachys palustris</i> L. | Marsh Hedge-nettle |
| LENTIBULARIACEAE | |
| <i>Urticularia macrorhiza</i> Le Conte. | Common Bladderwort |
| [= <i>U. vulgaris</i> L.] | |
| <i>U. intermedia</i> Hayne | Flat-leaved Bladderwort |
| MENYANTHACEAE | |
| <i>Menyanthes trifoliata</i> L. | Buck-bean |
| MONOTROPACEAE | |
| <i>Monotropa uniflora</i> L.* | Indian-Pipe |
| NYMPHACEAE | |
| <i>Nuphar variegatum</i> Dur. | Yellow Pond-Lily |
| ONAGRACEAE | |
| <i>Circaea alpina</i> L. ■ | Small Enchanter's-Nightshade |
| <i>Epilobium ciliatum</i> Raf. | Northern Willowherb |
| <i>Oenothera biennis</i> L. | Yellow Evening-Primrose |
| PLANTAGINACEAE | |
| <i>Plantago major</i> L. | Common Plantain |
| POLEMONIACEAE | |
| <i>Collomia linearis</i> Nutt. | Collomia |
| POLYGALACEAE | |
| <i>Polygala senega</i> L. | Seneca Snakeroot |
| POLYGONACEAE | |
| <i>Polygonum amphibium</i> L. | Swamp Persicaria |
| <i>P. aviculare</i> L. ■ | Doorweed |
| <i>P. lapathifolium</i> L. ■ | Pale Persicaria |

Rumex maritimus L. ■
R. occidentalis S. Wats. ■

Golden Dock
Western Dock

PRIMULACEAE

Lysimachia thyrsiflora L.
Trientalis borealis Raf.

Tufted Loosestrife
Northern Starflower

PYROLACEAE

Moneses uniflora (L.) Gray*
Orthilia secunda (L.) House
Pyrola asarifolia Michx.
P. chlorantha Sw.
P. elliptica Nutt.

One-Flowered Wintergreen
One-sided Wintergreen
Pink Wintergreen
Greenish-flowered Wintergreen
Common Shinleaf

RANUNCULACEAE

Actaea rubra (Ait.) Willd.
Anemone canadensis L.
A. multifida Poir. ■
A. patens L.
A. virginiana L. ■
[=*A. riparia* Fern.]
Aquilegia brevistyla Hook.
Caltha palustris L.
Delphinium glaucum S. Wats. ●
R. aquatilis L. var. *diffusus* Withering *
Ranunculus macounii Britt.
R. sceleratus L.
Thalictrum venulosum Trel.

Red Baneberry
Canada Anemone
Cut-leaved Anemone
Crocus Anemone
Riverbank Anemone

Small-flowered Columbine
Marsh-marigold
Tall Larkspur
White Water Crowfoot
Macoun's Buttercup
Celery-leaved buttercup
Veiny Meadow-Rue

ROSACEAE

Amelanchier alnifolia Nutt.
Dasiphora fruticosa (L.) Rydb. ssp. *floribunda* (Pursh) Kartesz ■
[=*Potentilla fruticosa* L.]
Fragaria vesca L.
F. virginiana Duchesne
Geum macrophyllum Willd.*
var. *perincisum* (Rydb.) Raup
G. rivale L.
G. triflorum Pursh
Potentilla anserina L.
P. arguta Pursh ■
P. norvegica L. ■
P. palustris (L.) Scop.
Prunus pensylvanica L. ■
P. virginiana L.
Rosa acicularis Lindl.
R. woodsii Lindl.*
Rubus arcticus L.
var. *acaulis* (Michx.) Focke

Saskatoon
Shrubby Cinquefoil
American Wild Strawberry
Smooth Wild Strawberry

Yellow Cut-leaf Avens
Purple Avens
Three-flowered Avens
Silverweed
White Cinquefoil
Rough Cinquefoil
Marsh Cinquefoil
Pin Cherry
Red-fruited Choke Cherry
Prickly Rose
Wood's Rose
Dwarf Raspberry

R. ideaus L.
 ssp. *strigosus* (Michx.) Focke
R. pubescens Raf.
Sibbaldiopsis tridentata (Ait.) Rydb.
 [=*Potentilla tridentata* Ait.]
Spiraea alba Du Roi

Wild Red Raspberry

Dewberry
Three-toothed Cinquefoil

Narrow-leaved Meadowsweet

RUBIACEAE

Galium boreale L.
G. labradoricum Wieg. ■
G. trifidum L. ■
G. triflorum Michx.

Northern Bedstraw
Labrador Bedstraw
Small Bedstraw
Sweet-scented Bedstraw

SALICACEAE

Populus balsamifera L.
P. tremuloides Michx.
Salix bebbiana Sarg.
S. candida Fluegge ■
S. discolor Muhl. ■
S. exigua Nutt.
 subsp. *interior* (Rowlee) Cronq.
S. lucida Muhl. ssp. *lasiandra* (Benth.) Murr. ■
 [=*S. lasiandra* Benth.]
S. pedicellaris Pursh
S. petiolaris Sm. ■

Balsam Poplar
Aspen Poplar
Beaked Willow
Hoary Willow
Pussy Willow
Sandbar Willow

Western Shining Willow
Bog Willow
Basket Willow

SANTALACEAE

Comandra umbellata (L.) Nutt.
Geocaulon lividum (Richards.) Fern.

Bastard Toadflax
Northern Comandra

SAXIFRAGACEAE

Heuchera richardsonii R. Br.
Mitella nuda L.
Parnassia palustris L.

Alumroot
Bishop's-cap
Meadow Grass-of-Parnassus

SCROPHULARIACEAE

Castilleja miniata Dougl.
Melampyrum lineare Desr.*
Penstemon procerus Douglas ex R. Grah.*
Veronica americana (Raf.) Schw. ■

Red Indian Paintbrush
Cow Wheat
Slender Blue Beardtongue
American Speedwell

URTICACEAE

Urtica dioica L.

Stinging Nettle

VIOLACEAE

Viola adunca J.E. Smith
V. canadensis L.
 var. *rugulosa* (Greene) C.L. Hitchc.
V. nephrophylla Greene

Early Blue Violet
Western Canada Violet

Northern Bog Violet

ANGIOSPERMS: MONOCOTYLEDON

ALISMATACEAE

Alisma triviale Pursh n
[=*A. plantago-aquatica* L.]
Sagittaria cuneata Sheld.

Common Water-plantain

Arum-leaved Arrowhead

ARACEAE

Calla palustris L.

Water Calla

CYPERACEAE

C. aquatilis Wahl. ■
C. aurea Nutt. ■
C. bebbii Olney ■
Carex foenea Willd. ■
[=*C. aena* Fern.]
C. pseudocyperus L. ■●
C. utriculata Boott. ■
C. viridula Michx. ■
Eleocharis palustris (L.) R. & S. ■
Eriophorum angustifolium Honck *
[=*E. polystachion* L.]
E. gracile Koch n
Schoenoplectus tabernaemontani (Gmel.)
[=*Scirpus validus* Vahl]
Scirpus microcarpus Pers. ■
Trichophorum alpinum (L.) Pers. ■
[=*Scirpus hudsonianus* (Michx.) Fern.]

Water Sedge

Golden Sedge

Bebb's Sedge

Hay Sedge

Cyperus-like Sedge

Beaked Sedge

Green Sedge

Creeping Spike-rush

Narrow-Leaved Cottongrass

Slender Cotton-grass

Palla

Great Bulrush

Small-fruited Bulrush

Alpine Cotton-grass

IRIDACEAE

Sisyrinchium montanum Greene

Common Blue-eyed Grass

JUNCACEAE

Juncus alpinoarticulatus Chaix
[=*J. alpinus* Vill.]
J. arcticus Willd. var. *balticus* (Willd.) Traut.
[=*J. balticus* Willd.]
J. nodosus L.

Alpine Rush

Baltic Rush

Knotted Rush

JUNCAGINACEAE

Triglochin maritima L.
T. palustris L. ■

Seaside Arrow-grass

Marsh Arrow-grass

LEMNACEAE

Lemna minor L.
Spirodela polyrhiza (L.) Scheid.*

Lesser Duckweed

Larger Duckweed

LILIACEAE

Lilium philadelphicum L.
Maianthemum canadense Desf.

Wood Lily

Two-leaved Solomon's-seal

| | |
|--|------------------------------|
| <i>M. stellatum</i> (L.) Link [= <i>Smilacina stellata</i> (L.) Desf.] | Star-flowered Solomon's-Seal |
| <i>M. trifolium</i> (L.) Sloboda [= <i>Smilacina trifolia</i> (L.) Desf.] | Three-leaved Solomon's-Seal |
| <i>Prosartes trachycarpum</i> S.Wats. [= <i>Disporum trachycarpum</i> (S. Wats.) B. & H.] | Fairybells |
| <i>Zygadenus elegans</i> Pursh ■ | Smooth Camas |

ORCHIDACEAE

| | |
|---|------------------------------|
| <i>Coeloglossum viride</i> (L.) Hartm. var. <i>virescens</i> (Muhl. ex Willd.) Luer [= <i>H. viridis</i> (L.) R.Br.] | Long-bracted Orchid |
| <i>Corallorhiza maculata</i> Raf. ■ | Large Coralroot |
| <i>Cypripedium passerinum</i> Richards.* | Sparrow's Egg Lady's-slipper |
| <i>Goodyera repens</i> (L.) R.Br. | Lesser Rattlesnake-plantain |
| <i>Platanthera aquilonis</i> Shev. [= <i>Habenaria hyperborea</i> (L.) R. Br.] | Green-flowered Bog Orchid |
| <i>P. obtusata</i> (Banks ex Pursh) Lindl. ■ [= <i>Habenaria obtusata</i> (Pursh) Richards. | Small Northern Bog Orchid |
| <i>Spiranthes lacera</i> (Raf.) Raf. *● [= <i>S. gracilis</i> (Bigelow) Beck] | Slender Ladies'-tresses |
| <i>S. romanzoffiana</i> Cham. & Schlecht. | Hooded Ladies'-tresses |

POACEAE

| | |
|---|---------------------|
| <i>Agrostis scabra</i> Willd. ■ | Rough Hair Grass |
| <i>Alopecurus aequalis</i> Sobol. ■ | Short-awned Foxtail |
| <i>Avena sativa</i> L. ■ | Oat |
| <i>Beckmannia syzigachne</i> (Steud.) Fern. ■ | Slough Grass |
| <i>Bromus inermis</i> Leyss. ■ | Smooth Brome |
| <i>Calamagrostis canadensis</i> (Michx.) Beauv. | Marsh Reed Grass |
| <i>Calamovilfa longifolia</i> (Hook.) Scribn.* | Sand Grass |
| <i>Elymus trachycaulus</i> (Link) Gould & Shin. [= <i>Agropyron trachycaulum</i> (Link) Malte] | Slender Wheatgrass |
| <i>Festuca ovina</i> L.*° | |
| <i>Hordeum jubatum</i> L. | Wild Barley |
| <i>Leymus innovatus</i> (Beal) Pilger [= <i>Elymus innovatus</i> Beal.] | Hairy Wild Rye |
| <i>Phalaris arundinacea</i> L. | Reed Canary Grass |
| <i>Phragmites australis</i> (Cav.) Trin. | Common Reed Grass |
| <i>Piptatherum pungens</i> (Torr. ex Spreng.) Barkworth * [= <i>Oryzopsis pungens</i> (Torr.) Hitchc.] | Northern Rice Grass |
| <i>Poa pratensis</i> L. | Kentucky Blue Grass |

POTAMOGETONACEAE

| | |
|---|------------------------|
| <i>Potamogeton natans</i> L. | Floating Pondweed |
| <i>P. richardsonii</i> (Benn.) Rydb. | Clasping-leaf Pondweed |
| <i>Stuckenia pectinata</i> (L.) Boerner [= <i>Potamogeton pectinatus</i> L.] | Sago Pondweed |

- Indicates that the species is being tracked by the W. P. Fraser Herbarium but is not currently listed as rare or endangered.
- Indicates a new record of the species for the MLPP
- * Indicated that the species was recorded in a previous floristic survey but not located in this survey.
- ** Probably *Festuca saximontana*; *Festuca ovina* has not been confirmed in Saskatchewan.



Leathery Grape Fern leaf

Elizabeth Reimer

Table 2. List of species provincially at risk in the Meadow Lake Provincial Park². Status assigned by the Saskatchewan Conservation Data Center: S1 (Extremely rare) = 5 or fewer occurrences in Saskatchewan, or very few remaining individuals; S2 (Rare) = 6 to 20 occurrences in Saskatchewan or few remaining individuals; S3 (Rare-Uncommon) = 21 to 100 occurrences in Saskatchewan, may be rare and local throughout the province or may occur in a restricted provincial range⁴.

| Scientific Name | SK CDC Rarity Status | Harms (2003) Status |
|------------------------------|-------------------------------|---------------------|
| Leathery Grape Fern | Rare-uncommon (S3) | Uncommon |
| Cyperus-like Sedge | Rare to rare-uncommon (S2S3) | Uncommon |
| Sparrow’s Egg Lady’s-slipper | Rare (S2) | Uncommon |
| Slender Ladies’-tresses | Rare to rare-uncommon (S2S3) | Vulnerable |
| Tall Larkspur | Rare to extremely rare (S1S2) | Threatened |
| Rough Daisy Fleabane | Rare to rare-uncommon (S2S3) | Uncommon |
| Tall White daisy Fleabane | Rare (S2) | Vulnerable |
| Dwarf Thistle | Rare-uncommon (S3) | Uncommon |



Sparrow’s Egg Lady’s-slipper

Michael Williams

RESULTS OF THE 2005 INTERNATIONAL BUTTERFLY COUNTS IN SASKATCHEWAN

MIKE GOLLOP, 51 Welker Crescent, Saskatoon, SK S7H 3M3 and ANNA LEIGHTON, 328 Saskatchewan Crescent West, Saskatoon, SK S7M 0A4.

The Xerxes Society began a program of organized butterfly counts in 1974. These counts were turned over to the North American Butterfly Association to administer beginning in 1993. Held within the month before or after July 4, they are referred to as Fourth of July Counts (4JC) in the United States and First of July Counts (1JC) in Canada. The first of these counts was held in Saskatchewan in 1986 and the longest running count, the one at Fort Qu'Appelle, has been conducted annually since 1990. Modeled on the Christmas Bird Count, each butterfly count is held within a 24 km circle and all individuals and species seen on

count day are recorded. Unlike the Christmas Bird Count, the butterfly count day may be rescheduled if the weather is unfavorable for the target species; butterflies simply don't fly when the weather is rainy or cold.

In 2005, annual butterfly counts were conducted at eight locations in Saskatchewan: Dundurn Military Reserve, Fort Qu'Appelle, Nisbet Forest, Regina, Saskatoon, Preeceville, Waskesiu River and Woodpile Creek. This is fewer counts than in the past few years: 14 locations in 2004 and 18 in 2003. The reduced number of counts resulted in a total of 57 species counted

in 2005 as compared to 79 in 2004 and 84 in 2003. The total number of butterflies counted was 6961, however, compared to 4942 in 2004 and 9634 in 2003. Butterflies per party-hour averaged 86 on the eight counts, which was up from previous

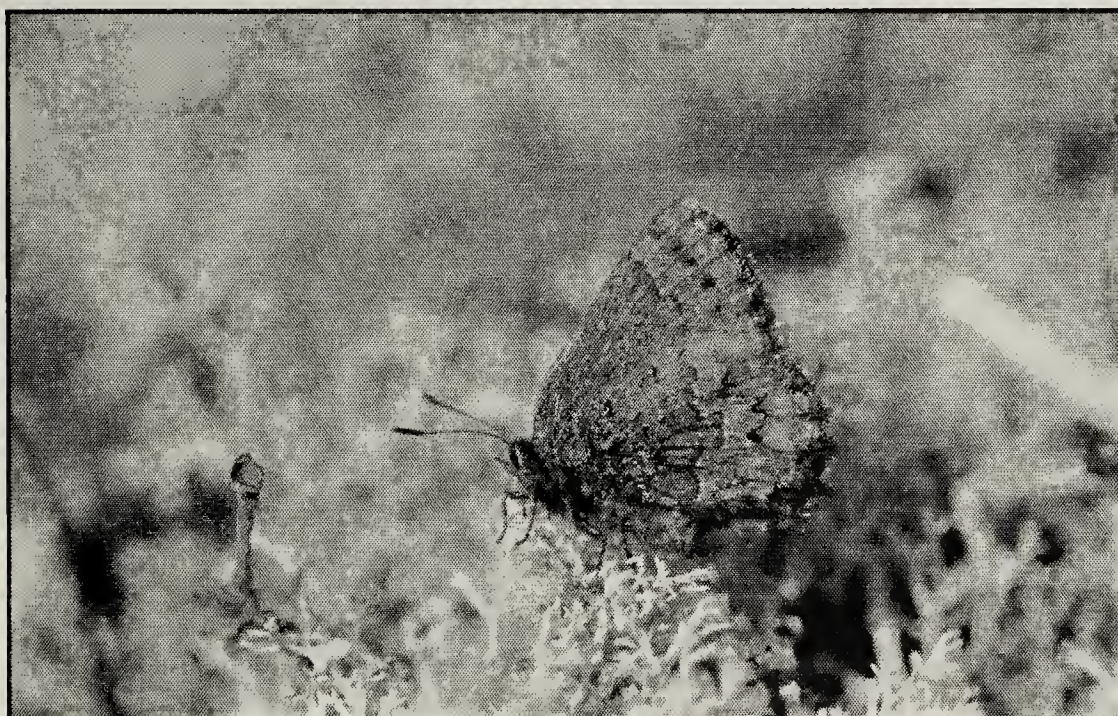


Figure 1. Eastern Pine Elfin on Waskesiu River count, 8 June 2005
Juhachi Asai

averages of 45 in 2004 and 68 in 2003. However, if the single count of 4788 Painted Ladies at Regina is omitted from these calculations, the average butterflies per party-hour for 2005 is only 27.

Participation has remained high in the last few years, with 33 different observers participating in the eight counts in 2005. They clocked 81 party-hours and covered 129 km on foot and an additional 135 km by vehicle. Count conditions ranged from a low temperature of 11°C at Waskesiu River in the morning to highs of 32°C at Waskesiu River in the afternoon and at Woodpile Creek. (Table 1) The high temperature at Woodpile Creek was also accompanied by a mosquito flight that was comparable only to that of the northern tundra!

The number of species per count ranged from 10 at Woodpile Creek to 25 at Fort Qu'Appelle. Species totals were generally lower than average for the second year in a row for counts with at least a five-year history. This may reflect the cool moist conditions during these two years. For the eight counts conducted in all three years from 2003 to 2005, the species totals have ranged from a low of 6 at Woodpile Creek in 2004 to a high of 35 at Preeceville in 2003 (which had 23 this year).

In 2005, the number of *individual* butterflies per count ranged from 36 at Woodpile Creek to 5034 at Regina. For the eight counts conducted in all

three years from 2003 to 2005, the total number of butterflies has ranged from as low as 8 at Woodpile Creek in 2004 to the 5034 reported from Regina in 2005.

Painted Ladies migrated into the province in large numbers in early to mid-June. Early counts recorded few if any of this species: Waskesiu River, on June 8, recorded one Painted Lady while Dundurn did not have any on June 13. All other counts recorded Painted Ladies including exceptional counts of 4788 at Regina on June 22 and 473 at Saskatoon on July 9. (Table 2)

Other unusually high counts of species included 6 Christina Sulphurs at Nisbet Forest, 205 Spring Azures at Waskesiu River and 113 Common Ringlets at Regina. A common butterfly not recorded on the 2005 counts was the Meadow Fritillary. There were also no Gray Commas.

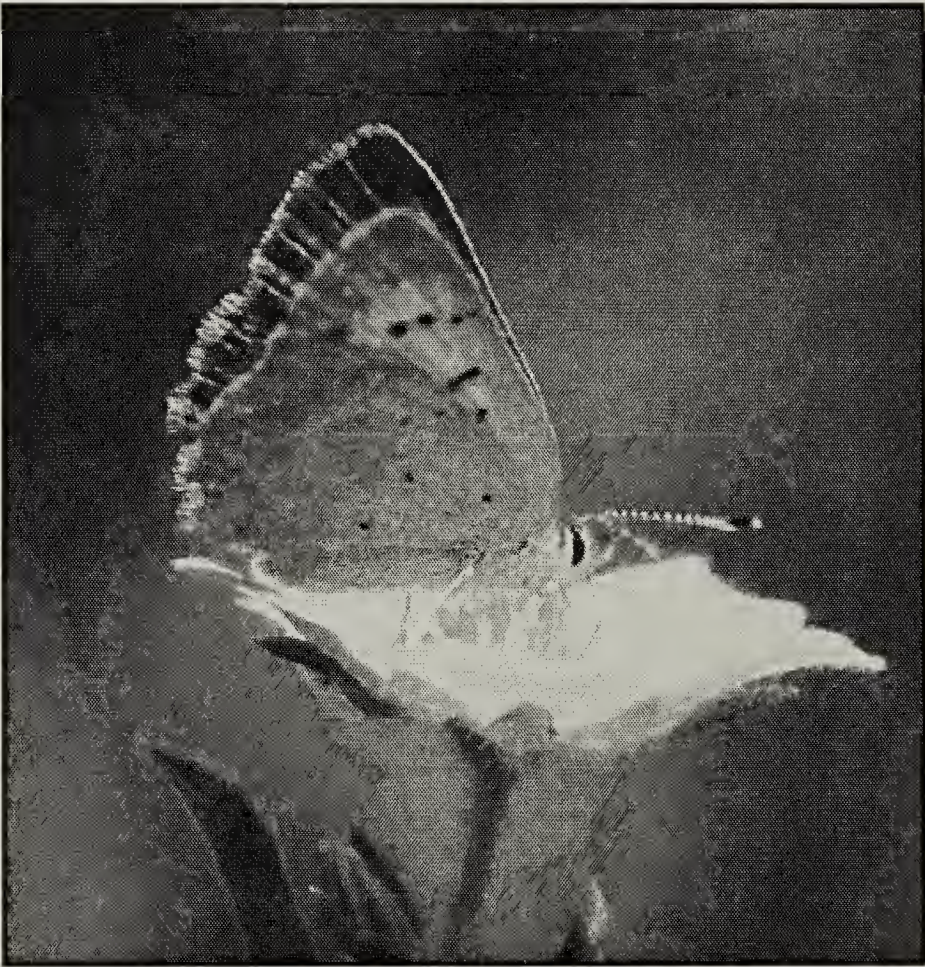


Figure 2. Dorcas Copper on host plant, Shrubby Cinquefoil. Nisbet Forest, 6 August 2005

Juhachi Asai

There were no provincially rare species recorded this year, although the Northern Blue at Fort Qu'Appelle is the first 1JC record, perhaps indicating that Ron Hooper is one of the few

people with sufficient expertise to identify this challenging species! Four Dorcas Coppers at Nisbet Forest were also a good find. (Figures 2 and 3).



Figure 3. *Dorcas Copper, female, dorsal surface. Nisbet Forest, 6 August 2005*
Juhachi Asai

Table 1. 1JC Statistics - Saskatchewan 2005

| 1JC name | 1JC date | no. of spp. | no. of b'flies | b'flies/ ph | no. of obs. | no. of ph | ph on foot | km on foot | km by car | time | % sun am:pm | temp. deg.C | wind km/hr |
|----------|----------|-------------|----------------|-------------|-------------|-----------|------------|------------|-----------|------------|-------------|-------------|------------|
| WaR | Jun 8 | 17 | 316 | 32.5 | 3 | 9.7 | 9.7 | 15 | 0 | 1030–1740 | 0:80 | 11–32 | light |
| Dun | Jun 13 | 12 | 119 | 31 | 1 | 3.8 | 3.8 | 12 | 0 | 0920–1440 | 90:90 | 19–25 | 16 |
| Reg | Jun 22 | 15 | 5034 | 479 | 8 | 10.5 | 9.51 | 14.5 | 13 | 0830–1500 | 100:100 | 22–31 | 8–32 |
| WoC | Jun 22 | 10 | 36 | 8.2 | 1 | 4.4 | 4.4 | 20 | 0 | 0925–1800 | 100:100 | 26–32 | 16 |
| FtQ | Jun 25 | 25 | 193 | 32 | 2 | 6 | 5 | 8 | 56 | 0930–1600 | 90:75 | 12–19.5 | 24–40 |
| Sto | Jul 9 | 23 | 677 | 25 | 12 | 27.4 | 17.4 | 24 | 46 | 0930–1735 | 75:90 | 23–28 | 14–25 |
| Pre | Jul 16 | 23 | 395 | 33 | 4 | 12 | 11 | 12.8 | 20 | 0915–1700 | 25:75 | 17–25 | 32–48 |
| NiF | Aug 3 | 17 | 191 | 27 | 2 | 7 | 7 | 23 | 0 | 1000–1700 | 50:50 | 15–25 | 15–30 |
| totals | 8 1JCs | 57 | 6961 | 86 | 33 | 80.8 | 67.8 | 129.3 | 135 | 0830–1806* | | 11–33* | 5–48* |

Abbreviations used in the table: WaR = Waskesiu River, Dun = Dundurn Military Reserve, Reg = Regina, FtQ = Fort Qu'Appelle, WoC = Woodpile Creek, Sto = Saskatoon, NiF = Nisbet Forest, Pre = Preeceville, obs. = observers, ph = party hours, spp. = species, *extremes for the year.

Table 2. IJC results - Saskatchewan 2005

| SPECIES NAME | WaR* 8 JN | Dun 13 JN | Reg 22 JN | WoC 22 JN | FtQ 25 JN | Sto 9 JY | Pre 16 JY | NiF 3 AU | Totals |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|-------------|--------|
| Silver-spotted Skipper | | | | | | 1 | | | 1 |
| Northern Cloudywing | 2 | | | | 1 | | | | 3 |
| <i>Unident. Duskywing</i> | 9 | | | | | | | | 9 |
| Dreamy Duskywing | 22 | | | | | | | | 22 |
| Juvenal's Duskywing | | | | | | | | | |
| Afranius Duskywing | | | | | | | | | |
| Persius Duskywing | 5 | 3 | | | | | | | 8 |
| Grizzled Skipper | | | | | | | | | |
| C. Checkered Skipper | | | 2 | 6 | 1 | 4 | | | 13 |
| Common Sootywing | | | | | | | | | |
| <i>Unident. Skipper</i> | | | | | | | | | |
| Arctic Skipper | 1 | | | | 4 | | | | 5 |
| Least Skipper | | | | | | | | | |
| Garita Skipperling | | | 2 | 5 | 4 | 1 | 5 | | 17 |
| Uncas Skipper | | | | 5 | | | | | 5 |
| C. Branded Skipper | | | | | | | | | |
| Plains Skipper | | | | | | | | | |
| Dakota Skipper | | | | | | | | | |
| Nevada Skipper | | | | | | | | | |
| Peck's Skipper | | | | | | 1 | | | 1 |
| Draco Skipper | | | | | | | | | |
| Tawny-edged Skipper | | | | | | | | | |
| Long Dash Skipper | | | | | 1 | 4 | 2 | 1 | 8 |
| Rhesus Skipper | | | | | | | | | |
| Delaware Skipper | | | | | | | | | |
| Woodland Skipper | | | | | | | | | |
| Hobomok Skipper | | | | | 3 | | | | 3 |
| Dun Skipper | | | | | | | | 3 | 3 |
| Dusted Skipper | | | | | | | | | |
| Osler's Roadside Skipper | | | | | | | | | |
| Com. Roadside Skipper | | 1 | | | 4 | | | | 5 |
| Old World Sw'tail (Dods) | | | | | | | | | |
| Old World Sw'tail (Huds) | | | | | | | | | |
| Anise Swallowtail | | | | | | | | | |
| <i>Anisel/ Old World Sw'tail</i> | | | | | | | | | |
| Can. Tiger Swallowtail | 3 | 4 | | | 4 | | | | 11 |
| <i>Unident. White</i> | | | 6 | | | | 4 | | 10 |
| Western White | | 4 | 14 | 1 | | 2 | | | 21 |
| Margined White | | | | | | | | | |
| Mustard White | 2 | | | | | | | 2 | 4 |
| Cabbage White | | | 4 | | 3 | 106 | 45 | 1 | 159 |
| Large Marble | | | | | | | | | |

| | WaR | Dun | Reg | WoC | FtQ | Sto | Pre | NiF | totals |
|----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|--------|
| Olympia Marble | | | | | | | | | |
| <i>Unident. Sulphur</i> | | | | | | | | 5 | 5 |
| Clouded Sulphur | | 9 | 25 | 2 | 7 | 9 | 4 | 9 | 65 |
| Orange Sulphur | | | | | | | | | |
| Q. Alexandra's Sulphur | | | | | | | | | |
| Christina Sulphur | | | | | | | 6 | | 6 |
| Giant Sulphur | | | | | | | | | |
| Pink-edged Sulphur | | | | | | | | | |
| Harvester | | | | | | | | | |
| <i>Unident. Copper</i> | | | | | | | 1 | | 1 |
| Gray Copper | | | | | | | | | |
| Bronze Copper | | | | | | | | | |
| Ruddy Copper | | | | | | | | | |
| Dorcas Copper | | | | | | | | 4 | 4 |
| Purplish Copper | | 1 | 24 | | | | | | 25 |
| Acadian Hairstreak | | | | | | | | | |
| Coral Hairstreak | | | | | 1 | | | 1 | 2 |
| Edwards' Hairstreak | | | | | | | | | |
| Banded Hairstreak | | | | | | | | | |
| Striped Hairstreak | | | | | | | 1 | | 1 |
| <i>Unident. Elfin</i> | 2 | | | | | | | | 2 |
| Brown Elfin | 10 | | | | | | | | 10 |
| Hoary Elfin | | | | | | | | | |
| Eastern Pine Elfin | 3 | | | | | | | | 3 |
| Western Pine Elfin | | | | | | | | | |
| Gray Hairstreak | | | | | | | | | |
| <i>Unident. Blue</i> | 19 | 1 | 5 | | | 2 | 3 | | 30 |
| West. Tailed Blue | 3 | 3 | | | 10 | 1 | 14 | | 31 |
| Spring Azure | 205 | | | | | | | | 205 |
| Summer Azure | | | | | | | | | |
| Rocky Mt.Dotted Blue | | | | | | | | | |
| Arrowhead Blue | | | | | | | | | |
| Silvery Blue | 10 | 2 | 45 | | 7 | 4 | 4 | | 72 |
| Northern Blue | | | | | 1 | | | | 1 |
| Melissa Blue | | 3 | 4 | | 5 | 1 | | | 13 |
| Greenish Blue | | 1 | 5 | | 7 | 4 | 6 | | 23 |
| Boisduval's Blue | | | | | | | | | |
| Lupine (Acmon) Blue | | | | | | | | | |
| Prairie Arctic Blue | | | | | | | | | |
| <i>Unident. large Fritillary</i> | | | | | | 6 | 9 | 5 | 20 |
| Variegated Fritillary | | | | | | 1 | 1 | 1 | 3 |
| Great Spangled Frit. | | | | | 1 | 5 | | 1 | 7 |

| | | WaR | Dun | Reg | WoC | FtQ | Sto | Pre | NiF | totals |
|----------------------------|-------------------|-----|-----|------|-----|-----|-----|-----|-----|--------|
| Aphrodite | Fritillary | | | | | | | 1 | | 1 |
| Edwards' | Fritillary | | | | | | | | | |
| Zerene | Fritillary | | | | | | | | | |
| Callippe | Fritillary | | | | 1 | 2 | 3 | 1 | | 7 |
| Atlantis | Fritillary | | | | | | | | | |
| Northwestern | Fritillary | | | | 2 | 20 | 10 | 3 | 8 | 43 |
| Mormon | Fritillary | | | | | | | | | |
| <i>Unident. small</i> | <i>Fritillary</i> | 1 | | | | | | | 20 | 21 |
| Bog | Fritillary | | | | | | | | | |
| Silver-bordered | Fritillary | | | | | | | 3 | 1 | 4 |
| Meadow | Fritillary | | | | | | | | | |
| Frigga | Fritillary | | | | | | | | | |
| Freija | Fritillary | 9 | | | | | | | | 9 |
| Arctic | Fritillary | | | | | | | | 23 | 23 |
| Gorgone | Checkerspot | | | | | | | | | |
| Sagebrush | Checkerspot | | | | | | | | | |
| <i>Unident. Crescent</i> | | | | | | | 4 | 10 | 1 | 15 |
| Pearl | Crescent | | | | | | 2 | | 1 | 3 |
| Northern | Crescent | | | | | 7 | 4 | 34 | | 45 |
| Tawny | Crescent | | | | | 3 | | 17 | | 20 |
| Variable | Checkerspot | | | | | | | | | |
| <i>Unident. Comma</i> | | 2 | | | | | | | 1 | 3 |
| Eastern | Comma | | | | | | | | | |
| Satyr | Comma | 1 | | | | | | | | 1 |
| Green | Comma | 2 | | | | | | | | 2 |
| Hoary | Comma | | | | | | | | | |
| Gray | Comma | | | | | | | | | |
| Compton | Tortoiseshell | | | | | | | | | |
| Mourning | Cloak | 1 | | | | | 1 | | | 2 |
| Milbert's | Tortoiseshell | | | | | 1 | 2 | 1 | | 4 |
| Painted | Lady | 1 | | 4788 | 4 | 82 | 473 | 23 | 18 | 5389 |
| Red | Admiral | | | 2 | | 3 | | | | 5 |
| White | Admiral | | | | | | 18 | 20 | 1 | 39 |
| Viceroy | | | | | | | | | | |
| Northern | Pearly-Eye | | | | | | | 5 | | 5 |
| Eyed | Brown | | | | | | | | | |
| Little | Wood-Satyr | | | | | | | | | |
| Common | Ringlet | | 73 | 113 | 3 | 11 | 8 | 2 | | 210 |
| <i>Unident. Wood-Nymph</i> | | | | | | | | | | |
| Com. Wood-Nymph | | | | | | | | 170 | 84 | 254 |
| Small Wood-Nymph | | | | | | | | | | |
| <i>Unident. Alpine</i> | | | | | | | | | | |
| Taiga | Alpine | | | | | | | | | |

| | WaR | Dun | Reg | WoC | FtQ | Sto | Pre | NiF | totals |
|-----------------------------|-----|-----|------|-----|-----|-----|-----|-----|--------|
| Red-disked Alpine | | | | | | | | | |
| Common Alpine | | | 1 | | | | | | 1 |
| Ridings' Satyr | | | | 7 | | | | | 7 |
| <i>Unident. Arctic</i> | | | | | | | | | |
| Macoun's Arctic | 3 | | | | | | | | 3 |
| Uhler's Arctic | | 14 | 4 | | | | | | 18 |
| Jutta Arctic | | | | | | | | | |
| Monarch | | | 1 | | | | | | 1 |
| <i>Unident. butterfly</i> | | | | | | | | | |
| Total number of species | 17 | 12 | 15 | 10 | 25 | 23 | 23 | 17 | 57 |
| Total number of butterflies | 316 | 119 | 5045 | 36 | 193 | 677 | 395 | 191 | 6972 |
| Count location | WaR | Dun | Reg | WoC | FtQ | Sto | Pre | NiF | |

*WaR = Waskesiu River, Dun = Dundurn Military Reserve, Reg = Regina, FtQ = Fort Qu'Appelle, WoC = Woodpile Creek, Sto = Saskatoon, NiF = Nisbet Forest, Pre = Preeceville.



Figure 4. Mustard White on Waskesiu River count, 8 June 2005 Juhachi Asai

FIRST RECORD OF THE NON-BITING MIDGE, *Zavreliella marmorata* (WULP.) (CHIRONOMIDAE: DIPTERA), FROM SASKATCHEWAN

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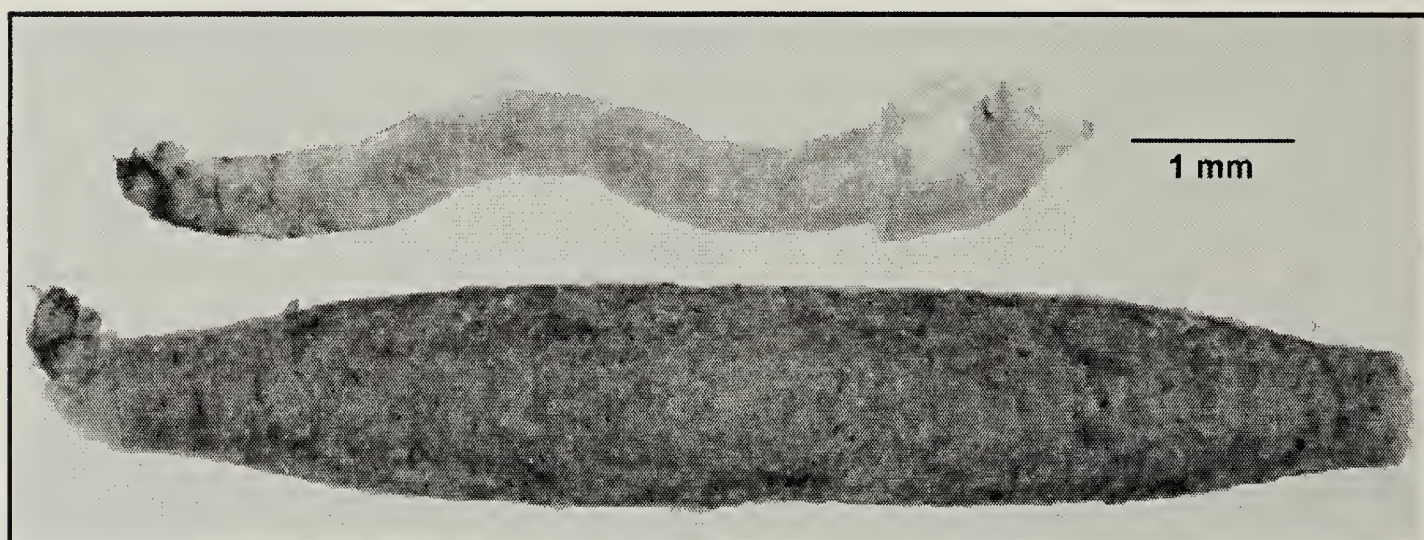


Figure 1: Larvae and larval case of *Zavreliella marmorata*.

Dale Parker

Larvae and pupae of a case-dwelling, non-biting midge or chironomid (Figure 1) were collected on July 7, 2004 in bottom samples from a pond 8 km sw of Regina, near Rowatt, Saskatchewan (104° 39' 42" W; 50° 19' 52" N). The pond covers an area of 700 m² and has a maximum depth of 2 m. It is ringed with cattails, willows and dogwoods. The substrate is fine silt and clay, littered with decaying vegetation. Representative specimens of the chironomid were prepared for microscopic examination by digesting the body tissues with 10% potassium hydroxide and 95% glacial acetic acid followed by dehydration in 100% alcohol. The cleared specimens were then mounted on microscope slides in Canada balsam (Figure 2).

The larvae and pupae were identified as *Zavreliella marmorata* (Wulp.).^{1,2,6,7} *Zavreliella* is superficially similar to another chironomid genus, *Lauterborniella*, in the larval and pupal stages. *Zavreliella* can be separated from this genus in the larval stage by a circular case opening, long lateral tubules, presence of a frontoclypeal apotome and simple setae subdentalis and setae submentis. *Lauterborniella* has a slit-like case opening, short lateral tubules, a clypeus, toothed setae subdentalis and feathered setae submentis.^{2,7} In the pupal stage, *Zavreliella* has longitudinal point patches on abdominal segments II to VI, four-branched thoracic horns and three lateral setae on segment VI. *Lauterborniella* has transverse point



Figure 2: Cleared larval head capsule of *Zavreliella marmorata*.

Dale Parker

patches on abdominal segments II to VI, two-branched thoracic horns and four lateral setae on segment VI.⁶ The adult males of *Zavreliella* have unique longitudinal setal brushes on the abdominal segments and dark markings on the wings.¹

Zavreliella marmorata is a new record for Saskatchewan.^{3,4,5} This species is distributed throughout most of the world and is the only species of the genus known from North America.² It has previously been reported from Ontario and Quebec, south to Florida and New Mexico.⁵ *Z. marmorata* inhabits weedy, enriched marshes, ponds and lakes and slow moving reaches of rivers and streams.⁵

Many chironomid larvae make stationary retreats, but larvae of *Z. marmorata* construct silk cases that they drag around with them in a manner similar to micro-caddisflies

(Hydroptilidae).^{2,7} The cases averaged 7.16 mm long (range 6.9 to 7.5, $n = 10$) and 1.27 mm wide (dorsal-ventral width, range 1.1 to 1.4, $n = 10$). All cases were slightly laterally flattened, except at the ends, and were covered in a film of clay from the pond substrate. Microscopic examination of the larval digestive tracts revealed their diet to be mainly detritus and diatoms.

Collections made on July 7, 2004, consisted mostly of mature larvae and pupae. Pupation occurs within the larval case. Many of the pupae contained adults almost ready to emerge, which suggests adults emerge in July. Some European populations of *Z. marmorata* are apparently parthenogenic.^{2,7} However, the pupae and pre-emergent adults examined in the Saskatchewan population were of both sexes.

This record of *Z. marmorata* adds to the over 190 species of chironomids already reported from Saskatchewan.^{3,4,5} Chironomids are one of the most ecologically important and diverse groups of aquatic insects in the province. In most aquatic habitats larvae function as one of the main recyclers of decomposing material and are preyed upon by predatory aquatic insects, fish and waterfowl. Adult chironomids are also important food for insectivorous birds. Unfortunately, species level research on the family has been undertaken in only a few habitats in Saskatchewan. It is expected that further collecting in different regions and habitats will add more species to the provincial records and possibly some new to science.

Acknowledgements

Research funding was provided by a grant from Environment Canada's Pesticide Science Fund to N. Glozier.

Technical assistance was provided by J. Froesse. J. Halpin processed the samples.

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CHRISTMAS GIFT

The day before Christmas while
walking the dog farther than usual
on a cold, clear, windy morning
threaded my way through willows
following our joyous dog's trail
on into calm young aspen woods
glad to finally be out of the wind
then stopped, entranced, staring
awed by the serene beauty of
smooth grey-green aspen trunks
wrapped about with bright light.

Bob Nero

NOTES AND LETTERS

FOOD CACHING BY BURROWING OWLS ON THE REGINA PLAIN, SASKATCHEWAN

Nest boxes have been used as a means of protecting Burrowing Owl nests from predators in southern Saskatchewan for two decades. In 2005, we were maintaining about 115 nest boxes between Moose Jaw, Weyburn and Regina. The nest boxes are constructed from a combination of plywood and weeping tile, and are buried underground to emulate a natural Burrowing Owl nest burrow. One of the side benefits of using nest boxes has been our ability to identify and count prey items stored by the owls. Burrowing Owls arrive in Saskatchewan in mid- to late April and

immediately begin to store prey items in their nest burrow. Presumably these caches help insure that the owls have access to food during lean times, during inclement weather, while the female is incubating, and especially when the chicks begin to hatch. The cache tends to reach peak size immediately prior to egg laying at the beginning of May, and then declines to near zero as the female begins to lay eggs. The caches tend to increase in size again just before the eggs hatch, and decline to near zero again after hatch.

Since 1992, we have kept records of all the prey items we have encountered in Burrowing Owl nest boxes.^{1,2} Our list of cached species includes Deer



Figure 1. The 87 Deer Mice, 4 Meadow Voles and a Prairie Shrew found in a Burrowing Owl nest box near Moose Jaw on 26 April 2005 *Claire Sanders*

Mice, Meadow Voles, Sagebrush Voles, Prairie Shrews, Olive-backed Pocket Mice, House Mice, Northern Grasshopper Mice, Richardson's Ground Squirrels, Thirteen-lined Ground Squirrels, young hares, ducklings, a young American Coot, a Yellow-headed Blackbird, Lapland Longspurs, Chestnut-collared Longspurs, Snow Buntings, Vesper Sparrows, Sprague's Pipits, garter snakes (*Thamnophis* spp.), Tiger Salamanders (*Ambystoma tigrinum*), Boreal Chorus Frogs (*Pseudacris triseriata*), dragonflies, carrion beetles, moths, and even the occasional golf ball.

By far, Deer Mice are the most common prey we have found. Between 1998 and 2002, Deer Mice comprised 86% (n = 114 nests) of the individuals found in the prey caches across the Regina Plain. Meadow Voles were the second most common at 12%. The average cache is usually only a few mice, but each year we tend to find a cache or two that consists of a couple dozen animals. Once every few years, we encounter a nest box with several dozen Deer Mice stored inside. On 26 April 2005, we, along with C. Sanders, examined a nest in Moose Jaw that contained 87 Deer Mice, 4 Meadow Voles and a Prairie Shrew (Figure 1). On 18 April 1998, we found a nest near Lang, SK that had 82 Deer Mice, 8 Meadow Voles and 2 House Mice. The largest prey cache we've ever encountered occurred during an irruption of Meadow Voles in 1997: in one nest in Moose Jaw, observed on 15 May 2005 we counted 2 Deer Mice and 210 Meadow Voles.

We have used the data from these prey caches to identify fluctuations in the quantity of Burrowing Owl prey items and have shown that the

reproductive success of Burrowing Owls tends to be correlated to the size of their prey caches.¹

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- Ray G. Poulin, Department of Biological Sciences, University of Alberta, Edmonton, AB T6G 2E9, L. Danielle Todd, Biology Department, University of Regina, Regina, SK S4S 0A2., and Troy I. Wellicome, Canadian Wildlife Service-Prairie and Northern Region, Edmonton, AB T6B 2X3

BALD EAGLE CONSUMES COMMON LOON EGG; COMMON LOON KILLS COMMON GOLDENEYE YOUNG

Since 1975, we have been watching Common Loons and their nests from our cottage on the Winnipeg River near Locke Bay, Ontario. We have ideal observation opportunities from our cottage deck to the small island less than 100 m away where the loons nest each year. In 2005, a pair of Common Loons was observed nesting on the island when we arrived at our cottage on May 19. Vegetation growth was not yet sufficient to conceal the adults while on the nest, and on several occasions over the next two days we noted an immature Bald Eagle harassing the adult loons in the vicinity of the nest. At 1655h on May 21, one of the authors (DGM) observed an adult Bald Eagle land 5 m from the loon nest, just as a downpour began. A single adult loon was located 5 m offshore from the nest and was giving the "tremolo" call that we have noted in our area signals the presence of an eagle. The eagle hopped directly to the loon nest and

began eating the nest contents. The eagle periodically lifted its bill skyward as if to use gravity to aid its consumption of the food.

At 1702h, the eagle finished eating, walked straight into the water and began washing its bill. The single loon had been calling continuously during the previous 7 minutes, but only now did another loon reply, unseen, from somewhere northwest of the nest. At 1703h, the eagle walked back on shore just as a second adult loon arrived and rushed at the eagle, splashing water at it from 2 m away. The eagle retreated several metres farther from shore in response to the loon's aggressive behaviour. The second loon called, and rushed splashing at the eagle until 1705h when the eagle flew off to the southeast. The first loon had remained approximately 10 m from the nest after the arrival of the second loon. After the departure of the eagle, the pair began tremolo calling in unison and continued until 1706h before moving away from the island at 1707h.

At 1711h one of the loons returned to the shoreline by the depredated nest, while the other adult remained approximately 60 m offshore. The loon by the nest picked up some light-coloured material in its bill, shook it, and discarded the material into the water several metres away from the nest. At 1713h the loon left the shoreline, before both adults returned to the nest at 1714h. One of the loons dove and surfaced with what might have been the previously discarded light-coloured material in its bill, and then dropped it. At 1715h both adults left the shoreline and completed "back preen" and "wing flap" postures in unison.²

Although Bald Eagles are well-known to forage opportunistically on a wide variety prey, including both adult and young Common Loons, current species accounts make no mention of eagles depredating eggs of loons or any other bird species.^{1,2} Examination of the depredated nest later in the evening of May 21 demonstrated that the eagle had broken a hole in the



Figure 1. Clark McMaster, age 8, holds the destroyed loon egg. Glen McMaster

upper surface of the single egg in the nest to gain access to the contents (Figure 1). Several pieces of egg membrane were found in the water near the nest, leading us to conclude this was the light-coloured material the loons had discarded. One of us (AM) has previously observed adults remove egg membranes from hatched eggs at successful nests.

In previous years we have observed loons renesting as often as three times in a single summer after nest failure due to flooding. The pair of loons occupying the territory in 2005 may have renested during our subsequent absence from the cottage, but upon our return in July they were not actively nesting. On a morning in mid-July, 2005 one of the authors (AM) watched from our deck as one of the loons attacked a foraging female Common Goldeneye and her 3 downy chicks. The loon pulled the first two ducklings under the water in turn despite the alarm calls, splashing and short flights of the female goldeneye. The third duckling fluttered across the water almost to the shoreline before being pulled under by the loon. The ducklings did not resurface after being pulled under, but the loon reappeared within a couple of seconds. As loons generally consume prey while on the surface of the water, we assume the ducklings were killed but not eaten. As far as we know, none of the ducklings floated ashore.

Even when not actively nesting, loons often display territorial behaviour toward both other loons and other species.² We have previously observed a loon chase a Mallard hen and her brood out of the water and onto shore. We have also observed loons attack foraging flocks of American White Pelicans, Common Mergansers, and Double-crested Cormorants from

underwater and drive them from their foraging area.

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- Ardythe McMaster, Box 40, Rossendale, MB R0H 1C0, Email: <admcmast@mts.net>, and D. Glen McMaster, 119 Edenwold Crescent, Regina, SK S4R 8A6, Email: <glen.mcmaster@swa.ca>.

UN-FEATHERING THE NEST

At our cottage on the east shore of Last Mountain Lake, Tree Swallows and House Wrens often compete for the nest boxes. Last year, on June 26, we noticed that a House Wren was investigating a box in which a Tree Swallow had already reared an early brood.

As we watched, the wren went into the box a couple of times, then emerged with a white feather in its beak, which dropped to the ground. It went back in again and returned with another feather. After this happened a few more times, we decided to count seriously.

Sometimes it was a three-inch long feather, sometimes it was a fluffy half-inch bit of down, sometimes the wren came out with two feathers in his beak. Over half an hour elapsed before the wren finally ceased clearing the box, by which time we had counted 111 (yes, one hundred and eleven!) feathers removed.

We don't know who to admire most, the Tree Swallow for collecting so many

feathers or the House Wren for determinedly removing them!

When we checked the box a few days later, there was no sign of occupation. We did have a couple of wren nests in other boxes, but whether one of them was our energetic friend, we don't know.

- Stan and Margaret Fielden, 3923 24th Avenue, Regina, SK S4S 1J9, E-mail: <fieldens@accesscomm.ca>

A SPRING WELCOME, 2005

Spring arrived with a swoop of wings out here on the farm, 12 miles southwest of Ceylon. As I settled down to watch the 6 p.m. news on March 20, I saw a large, dark bird sail past the window. On going outside, I discovered it was one of four mature Bald Eagles that had stopped to rest in the big poplar tree across the road. After about half an hour, they left, one at a time, flying north, approximately following our gravel road. I lost sight of them as they flew behind the trees north of our place. What a beautiful way to welcome spring.

- Wendy Caldwell, P.O. Box 21, Ceylon, SK S0C 0T0

PAINTED LADY BUTTERFLY IRRUPTION IN REGINA

On a calm and sunny Saturday (June 18, 2005), an unusual wildlife event occurred in my family's backyard in south Regina and apparently across the city. An estimated 500-600 Painted Lady butterflies (*Vanessa cardui*) temporarily occupied our Little-Leaf Linden tree (*Tilia cordata*) in the northwest corner of our backyard, with dozens more visiting the flowering plants in the backyard.

-Robert Warnock, 3603 White Bay, Regina, SK S4S 7C9,
E-mail: <warnockr@accesscomm.ca>

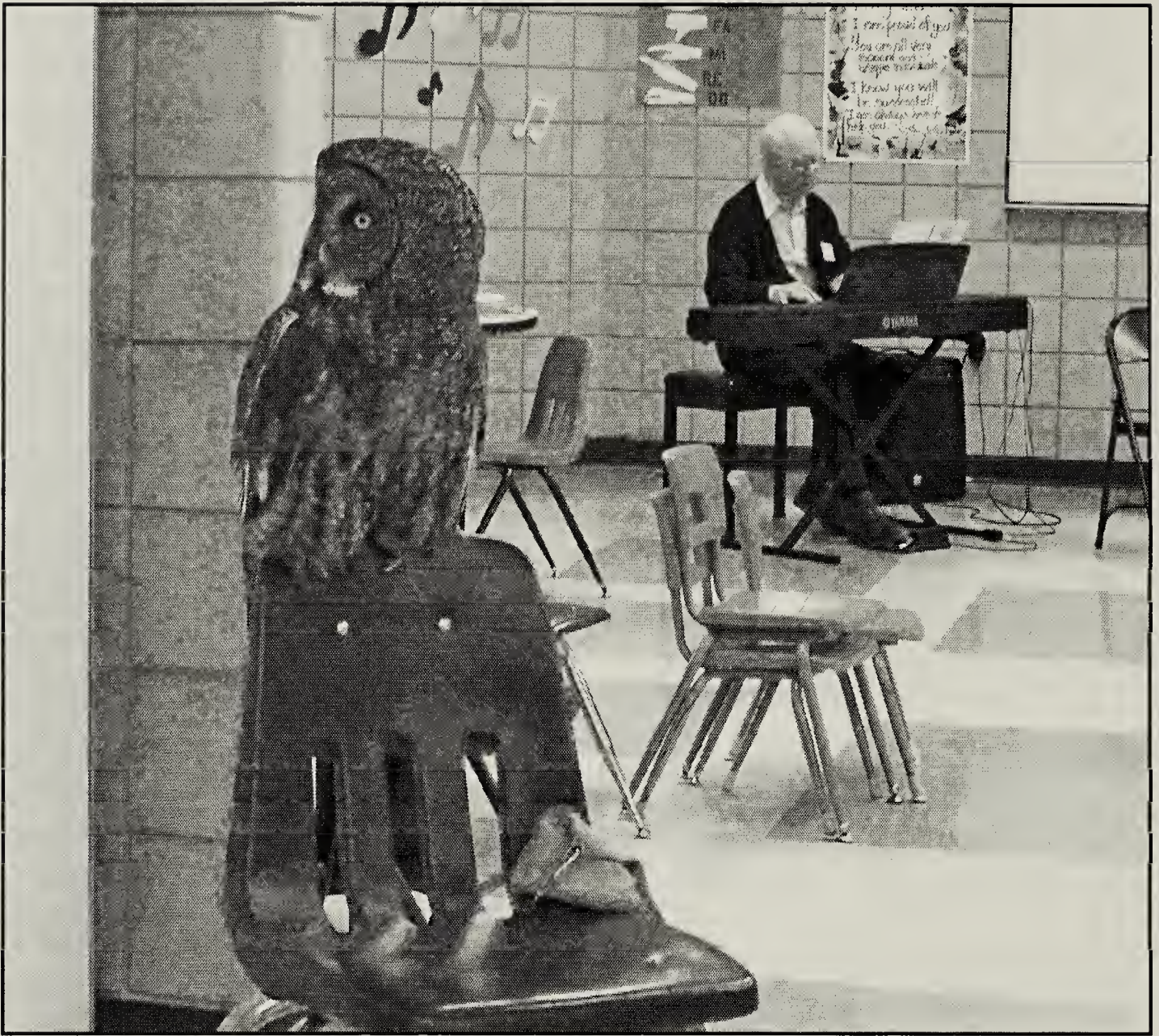
OBITUARY, LADY GRAYL

Lady Grayl (or Gray'l), the tame Great Gray Owl kept for Manitoba Conservation by ornithologist and writer Dr. Robert Nero, died October 13, 2005. Through her appearances with Nero at schools, shopping malls and other venues, Grayl had helped educate thousands of children and adults about the need for conservation, notes Dr. Jim Duncan, a local wildlife biologist.

In his 1994 book, *Lady Grayl: Owl With A Mission*, Nero recounts how he and a helper, Renate Scriven, first found Grayl as a young chick in a manmade nest in the area around Marchand, east of Steinbach, in 1984. "We came back a week later and the chick was in worse condition with a cut on its head made by one of its nest mates," said Nero. Rather than leave her to die, 'a decision was made' to raise the young bird in captivity.

When she wasn't on tour with Nero, Grayl resided in a large pen in the backyard of her keeper's Charleswood home. Among other achievements, Nero and Grayl played a major role in having the Great Gray Owl declared Manitoba's official provincial bird emblem in 1987. 'She was tame, but not like a dog. We worked within her limitations. In many ways, she still behaved like a wild bird,' said Nero. According to Dr. Tom Hutchinson, who performed a necropsy to determine the cause of death, Lady Grayl died of natural causes. She was 21½ years old.

[Adapted from an article 'Bird educated thousands about conservation,' by Martin Zeilig, printed in the *Winnipeg Free Press* on 15 October 2005. Used with permission from the *Winnipeg Free Press*.]



Lady Grayl represented the Manitoba provincial bird emblem at Manitoba Heritage Day on 12 May 2005 in Gimli, Manitoba. To relax prior to the event, Bob Nero serenaded Lady Grayl and others with a jazzy piano tune. Jim Duncan



“We took Grayl on her first overnight trip in September 1989, driving to Duluth for a presentation that evening to the Minnesota Ornithologists Union. Jim Duncan came along to help drive and manage things—a big help. I was worried about a lot of things in connection with this trip, but keeping Grayl overnight was my main concern....It wasn’t a bad night—her first free flight around the [motel] room seemed awfully noisy for an owl, especially when she landed on the metal coat-racks, then flew onto the TV. We slept, aroused a few times by the wings of this eagle-sized bird flapping overhead. Once, early in the morning, I heard Jim give a shout and looked over to see Grayl perched on top of the covers, balancing on his foot. Long before it was time to get up, we were awake, enjoying the unusual treat of Grayl dropping onto first one bed and then the other, as if she were pouncing on a mouse.”

Robert W. Nero, *Lady Grayl, Owl with a Mission*, p. 155-156

NATURE SASKATCHEWAN NEWS

Nature Saskatchewan and Nature Regina hosted the Fall Meet held in Regina on September 30 and October 1 and 2, 2005. The Meet featured a good deal of discussion on conservation issues as well as three successful field trips. The Awards Banquet, attended by 120 people, took place on Saturday, October 1. The annual awards program recognizes the invaluable contribution of volunteers to Nature Saskatchewan and to conservation. The awards, and their recipients, are listed below in alphabetical order.

Cliff Shaw Award

Named for the second editor of *Blue Jay*, naturalist and writer Cliff Shaw, this award is presented annually to recognize an outstanding contribution in the past four issues of the magazine. Special consideration is given to articles by new contributors. This year's recipients are **Cary Hamel** and **Elizabeth Reimer** for their article in the December 2004 issue, 'The St. Lazare Area of Manitoba: A Biodiversity Hotspot.'



Figure 1. Dale Hjertaas receives award from Lorne Scott.

Conservation Award

The Conservation Award is presented each year to an individual whose total contribution to conservation is outstanding. The award may be presented for a specific project or conservation work over a period of years. There were two recipients: Dale Hjertaas and Elaine Hughes.

Dale Hjertaas, (Figure 1) Executive Director of Policy and Communications for the Saskatchewan Watershed Authority, has devoted time, energy and expertise to Nature Saskatchewan. He has served as President and in various other positions, and is currently President of Nature Regina. During the past several decades, Dale has been involved in most of the major wildlife management and conservation initiatives in Saskatchewan either in a professional or volunteer capacity.

On April 9, 2003, **Elaine Hughes** (Figure 2) and several others formed 'Stop the Hogs Coalition' after Big Sky



Figure 2. Elaine Hughes receives award from Lorne Scott.

Farms informed the community of Archerwill about their proposal for a 5000-sow mega-hog operation for the municipality. Thus far, the group has succeeded in preventing the hog barn development in Archerwill. Equally important, Elaine has identified, through research and networking, many of the environmental and social concerns associated with the mega-hog-farm industry.

Fellows Award

Since 1987 the Society has designated members who have made a long and outstanding contribution as “Fellows of the Saskatchewan Natural History Society”. In 2005 three members were recognized with this award: George Mitchell, Wayne Pepper and Diether Peschken,.

After receiving his master’s degree from the University of British Columbia in 1952, **George Mitchell** (Figure 3) worked as Alberta’s first wildlife biologist until he took a leave of absence to complete a Ph.D on Pronghorn Antelope at Pullman, Washington. In 1966, George and his wife, Connie, moved to Regina where George became Associate Professor at the University of Regina. He established the first Student Chapter of the Wildlife Society in Western Canada and many of his biology students have pursued successful wildlife management and conservation careers here in Saskatchewan and elsewhere. George has long been a member and supporter of Nature Saskatchewan and has represented the Society on the Fish and Wildlife Development Advisory Committee since 1993.

Wayne Pepper (Figure 4) came to Saskatchewan in 1965 with a degree in Wildlife and Fisheries Management

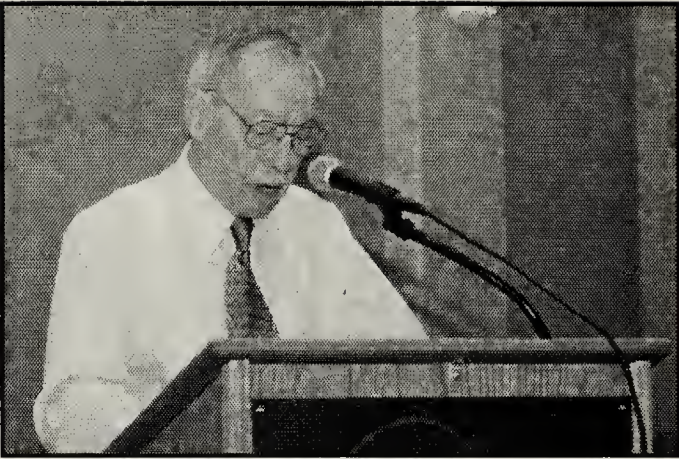


Figure 3. George Mitchell

from the University of Guelph, and worked as a Wildlife Management Ecologist with the Department of Natural Resources in Regina. He joined the Saskatchewan Natural History Society at that time. In 1971, he did a master’s degree at the University of Regina on the ecology of Sharp-tailed Grouse. One of his teachers and mentors was George Mitchell. Upon returning to the DNR in a management position, Wayne supervised many wildlife and natural resource programs until retiring in 1996. Wayne continues to represent Nature Saskatchewan on the government’s Wildlife Advisory and Parks Advisory committees, Crown Land Stakeholders Committee and Forestry Consultation Workshops.

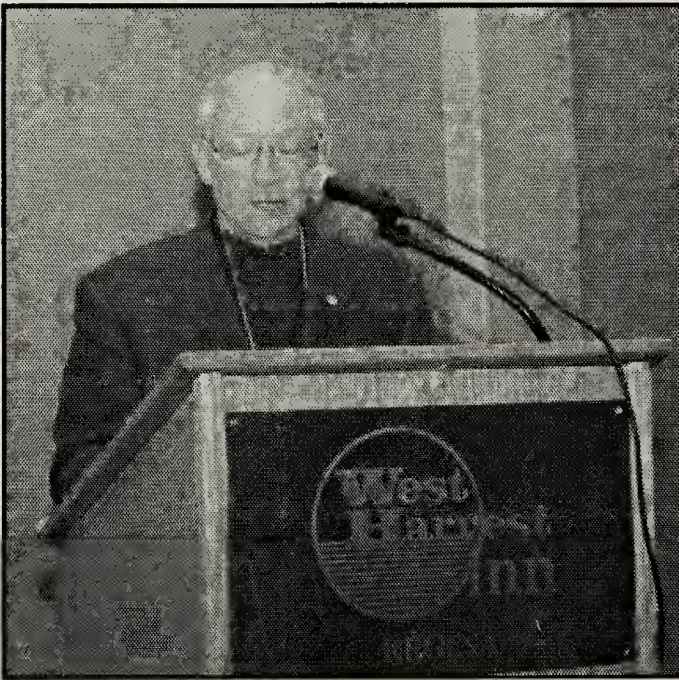


Figure 4. Wayne Pepper



Figure 5. Diether Peschken, left, with NS President, Attila Chanady.

Diether Peschken, (Figure 5) an entomologist, was a research scientist with Agriculture Canada for many years, specializing in biological pest and weed control. Educated in Germany and Canada, he completed his Ph.D at the University of Gottingen, Germany in 1964. He has been an active member of the Saskatchewan Entomological Society, the Regina Natural History Society (Nature Regina) and Nature Saskatchewan. He joined the N.S. Board of Directors in 1999 and served as Research Director and Vice-President. A much respected and valued member of the Board, he made a substantial contribution to the work of the Society throughout the years. He retired from the Board earlier this year for family reasons.

Larry Morgotch Memorial Award

This award is presented to the member showing the best photographs at the Meet's Friday night presentation. Winners of the Larry Morgotch Award for 2005 are **Michelle Yaskowich** (Figure 6) and **Andrea Perras** for their entertaining and informative presentation, "The Adventures of the Losh Ladies," about their field work experiences in the Shrubs for Shrikes program.



Figure 6. Michelle Yaskowich receives award from Jim Elliot.

Long-term Service Award

This award is presented to an individual who has made an ongoing contribution to the society through his or her volunteerism and energy. This year, the recipient is **Rob Warnock** (Figure 7). Rob has a BSc degree from the University of Regina, joined the NS Board in 1999, has served as Membership Director, Vice-President, and Research Director, and for the past couple of years as co-editor of *Nature Views*. Rob has always been a very hard worker, prepared to help out where and when necessary. He was recognized for his years of uninterrupted service to the Society.



Figure 7. Robert Warnock (left) receives award from Attila Chanady

Natural History Scholarship

Nature Saskatchewan encourages academic achievement and excellence with a scholarship for graduate students of excellent academic standing whose studies are in keeping with the goals and objectives of the Society. In 2005, scholarships were presented to two students: Janet Ng and Jana Berman. **Janet Ng** (Figure 8) is in a Master of Science program in Biology at the University of Regina. She is studying the ecology of Common Nighthawks in Southern Saskatchewan. **Jana Berman** is a Master of Arts student in the Geography Department at the University of Saskatchewan. Her thesis title is 'Learning about place and the environment through school based ecological monitoring in the Frenchman River Basin, Saskatchewan.'

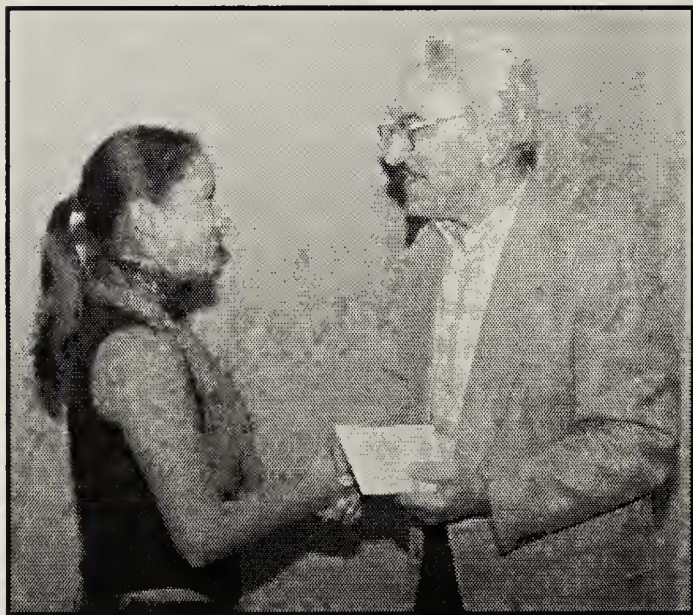
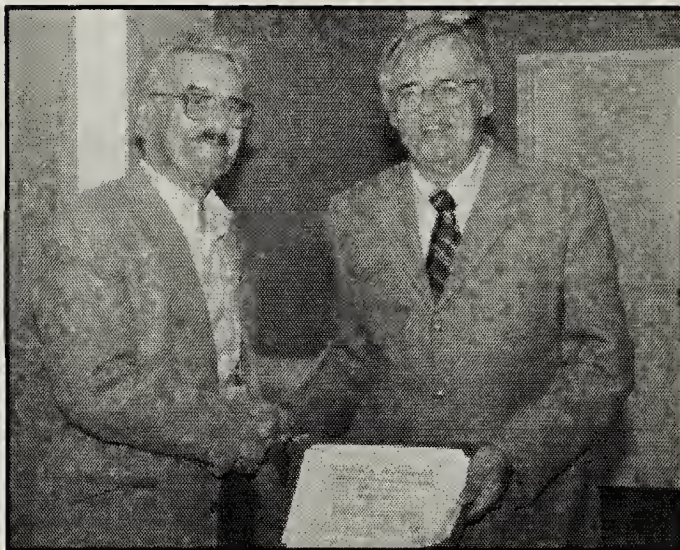


Figure 8. Janet Ng receives award from Attila Chanady

Volunteer of the Year Award

This award acknowledges individuals who have devoted significant time and energy to promoting the goals of the Society. This year, the Society acknowledged **Gary Seib** for his contribution, as Member Services Director, to the development of Nature Saskatchewan's centennial project, the publication of *Prairie Phoenix: The Red Lily (Lilium*



Gary Seib receives award from Attila.

philadelphicum) in Saskatchewan. The publication of a book is a complex and time consuming process and Gary gave many, many hours to this task in addition to continuing to meet the other responsibilities of the Member Services Director.

Special Award

Bonnie Lawrence and **Anna Leighton** were recognized for their commitment to research and the conservation of the Western Red Lily, Saskatchewan's floral emblem, and for authoring the Nature Saskatchewan publication: *Prairie Phoenix: The Red Lily (Lilium philadelphicum) in Saskatchewan*. Each received a leather-bound copy of their book, *Prairie Phoenix*.



From left to right: Bonnie Lawrence, Attila Chanady and Anna Leighton

- Compiled by the Editors from text contributed by Attila Chanady, Lorne Scott and Paul Wilson. Photographs by Dale Williams of Regina.

CORRIGENDA

**THE FOX THAT STOLE THE APEX OF
PALLISER’S TRIANGLE** by James K.
Finley, September 2005.

The caption that accompanies the photograph on page 135 of this article should read:

Figure 1. Coyotes have become more abundant in the last decade with a concomitant decrease in foxes. This

individual was photographed at the Luseland sewage lagoon in late October 2002, where it had been feeding heavily on wounded geese. In the third year of a major drought, no sloughs remained in the country, and thousands of geese concentrated on the lagoon. Because of liberal bag limits, many geese were wounded, attracting coyotes closer to town than they would have dared in the old days.

**A LOGGERHEAD SHRIKE NEST IN A
RUSTING GRAIN BINDER** by Robert
Warnock, September 2005.

The piece of farm machinery shown on page 155 of this note is a *threshing machine* and not a *grain binder*. This was pointed out by Gary Seib, Anthony Hruska and Len Fisher. Additional information was contributed by Mr. Hruska, who is very familiar with this kind of machinery. Mr. Hruska writes ‘A grain binder cuts the grain and ties it into sheaves, which are then stooked. Later, the grain is threshed by the illustrated machine. The only bird to

build a nest in a grain binder is the House Wren, which builds its nest in the twine box. A robin will build its nest under the deck, out of the elements. The part that you have illustrated is the blower, or straw stacker of a threshing machine.” Mr. Hruska adds that the nest shown in the photographs is not in the machine but on it, whereas Mr. Seib describes the nest as ‘beside the discharge pipe...’

The editors are grateful to the readers who took the time to contact us about these errors and provide interesting, related information.



“Hawks, eagles and falcons live by their eyes, scanning vast distances for prey. Their eyesight is superb, although the usual comparison, that it equals a human’s with 8-power binoculars, is misleading. It’s not that a hawk enjoys magnified vision, but that its ability to discriminate detail over distance is vastly better than a person’s. Thus, a red-tailed hawk kiting 1,500 feet above the ground can spot a rabbit scurrying through the underbrush, where as a human would see only an indistinct jumble of shapes and colors at that range.”

Scott Weidensaul, *The Birder’s Miscellany*, p. 9.

MYSTERY PHOTO

DECEMBER 2005 MYSTERY PHOTO

The December mystery photo is on the back cover and the caption at the bottom of the inside front cover provides the details.

ANSWER TO THE SEPTEMBER 2005 MYSTERY PHOTO

The powdery white coils suggestive of bird droppings are sawfly larvae (Figure 1). The resemblance to bird dropping is probably not accidental and is even more pronounced in the earlier stages, as shown by the shed skins in Figure 2. Masquerading as bird droppings presumably is a deterrent to being pecked at by birds and occurs in other insects, such as the early instars of swallowtail butterfly caterpillars.

The larvae of this species of sawfly feed on Red Osier Dogwood leaves. They avoid the tough veins and midrib, as can be seen in the photographs. The larvae pictured here resemble those of the Dogwood Sawfly, *Macremphytus tarsatus*, a species of eastern North America that may not occur in western Canada, although other species of the genus do occur here.

To tell a sawfly caterpillar from those of butterflies or moths (Lepidopterans), count the prolegs. Lepidopteran larvae have five pairs; the sawflies have six or

more. Prolegs are the stubby, cylindrical legs on the abdomen behind the three pairs of true legs attached to the thorax. (In spite of being called prolegs, they appear to be in hind leg position!) Lepidopteran prolegs are covered with tiny hooks, like velcro. Sawfly prolegs lack this feature. This difference allows you to distinguish between the two by placing the caterpillar in question on your sleeve and trying to pick it up. If the hind end lifts easily it is a sawfly; if it remains hooked to your sleeve, it is a lepidopteran caterpillar.

Adult sawflies look nothing like butterflies and moths; they resemble wasps and belong to the same order, Hymenoptera.

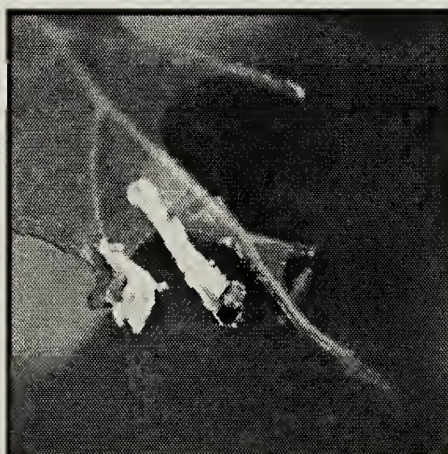
The moral of the story is that not all dusty piles are bird droppings, and not all caterpillars become butterflies or moths.

The editors thank Cedric Gillott, Keith Roney, Greg Pohl and Ernest Mengersen for the information on sawflies from which the answer was prepared. The photographs were taken by Anna Leighton.

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